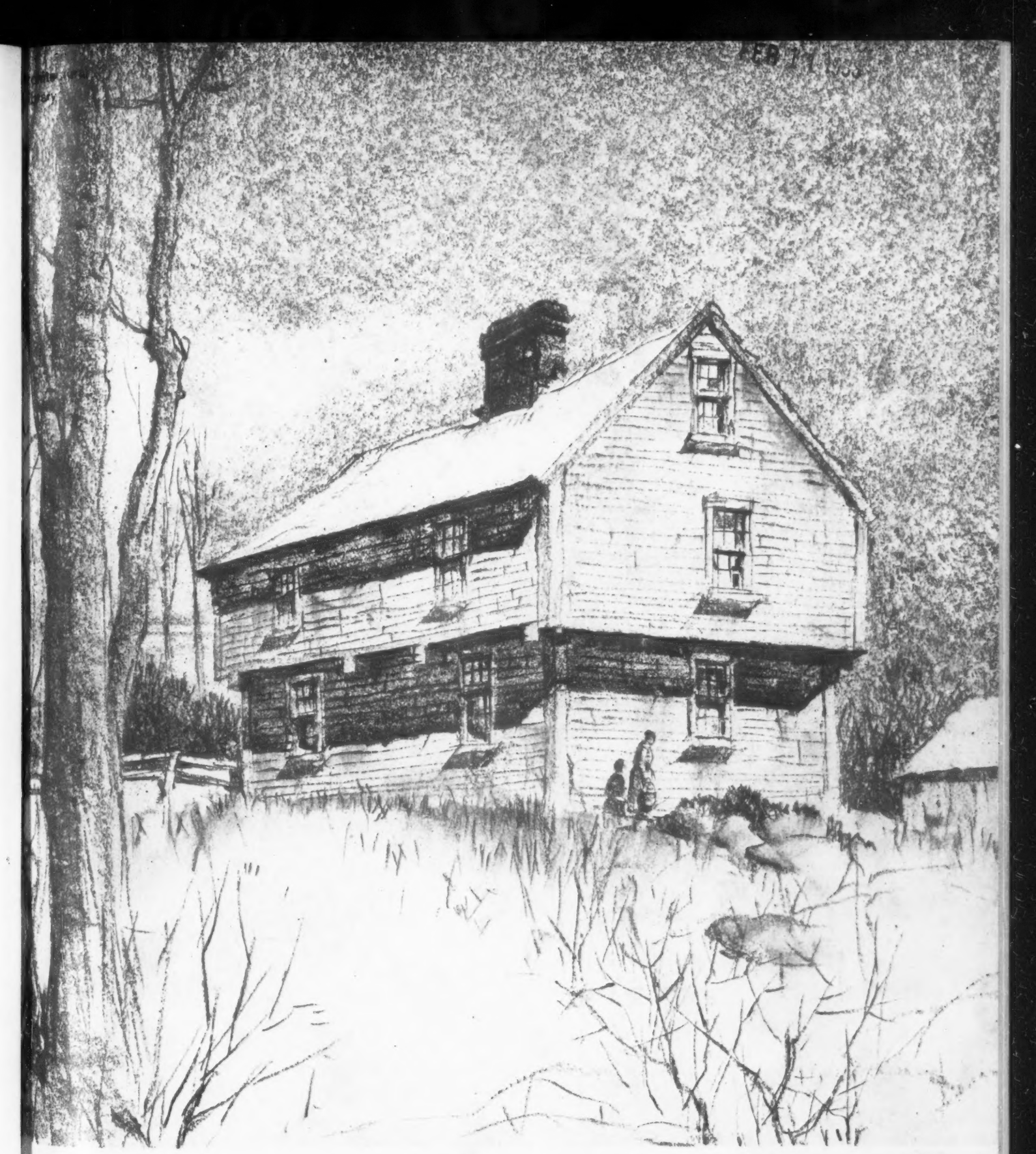

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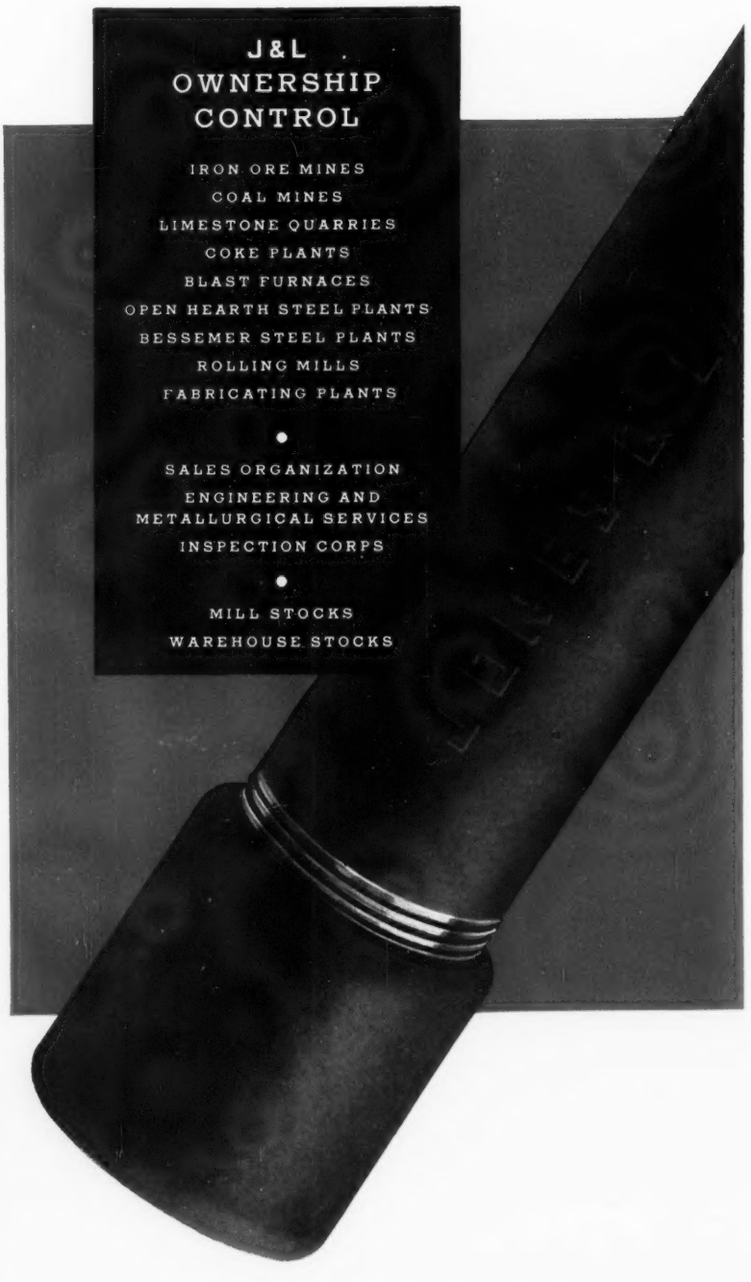

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Replies to Mr. Coyle

Editor's Note:—*In the January issue we printed an article by David Cushman Coyle, "New Aspects of the Distribution Problem," and invited our readers to express themselves either* pro *or* con *as to the soundness of his ideas. We are printing herewith two responses and as others come in they will be presented in succeeding issues.*

To the Editor of Pencil Points

Sir:

Such pseudo-philosophies as modernism, the various psychologies, the Oxford Movement, and technocracy may be interesting studies in the colleges but are passing phases that will never solve our problems. Through their insidious nature, however, they are likely to cause delays. These ideas come and go in their turn. The faith and initiative of individuals taken collectively is far more potent than such schemes as Mr. Coyle's extensive Government building and the schemes advanced at present for inflating money. Besides, buildings of individual ownership are much more economic in operation. They are designed with the thorough study of the private commissioned architect, instead of at half price by a parsimonious Government bureau.

The depression is in the minds of men and like a fever has to run its proper course. This last depression has taken the same course as previous panics but is greater and lasts longer on account of its more general extent involving almost the whole world. Prosperity developed selfishness and greed; greed developed dishonesty, economic intemperance and unreal values which in turn produced fear and, like the Tower of Babel, confusion. The depression was necessary to stamp out the false. We hope it has about completed its purpose that confidence may be soon restored. Depressions are as old as the hills. They are recorded in the Bible. Even an examination of tree rings shows a succession of lean and fat years.

People ran away with themselves in false speculation. They continued a year or more after the building industry dropped and warnings were sounded. The inevitable came and hurt the just along with the unjust. Then liquidation of false values set in. Commodities and labor reached bottom over a year ago. Real estate and speculative buildings had soared to most unsound values and tempted cities to extravagant expenditures with exorbitant taxes. Real estate and buildings were mortgaged under such amortization terms that would extend beyond the time for the buildings to become obsolete. They are the last to be brought down to the correct level, holding up new modern construction in the meantime. Now, undoubtedly, many building valuations have been reduced below their worth on account of present low income; although a great proportion of the present buildings have become obsolete and as soon as they can be reasonably amortized, the demand for new modern buildings and equipment will necessarily rise.

It is now hoped that mortgages have been reduced through the terrific readjustments and foreclosures to a safe basis. It has taken until now to do it. Savings banks and private safety deposit boxes are bulging with money and can not stand idleness much longer. Interest rates are at a low record. This money must break out into investments. It will do so when the bond and mortgage companies convince capital that real estate and building loans are adjusted to a sound basis. The adjustment has been slow because it hurts so. Building is the great buffer industry that not only anticipates depressions, but when adjusted to an honest basis starts recuperation of business.

There has developed in realty a shortage of houses, which will be keenly felt when doubling-up ceases. Prices of construction are below costs. Finance is available for the building of houses by the architect directly for the owner, but not for speculative houses. When all seems dark there is always that glimmer of light that will eventually light up the world. There are now some paying businesses that are ready to build. The first step will be the advance of finance and the next the demand of labor and professional men for proper recompense, undoubtedly accompanied by strikes on the part of labor and a renewed spirit in the professional organizations such as was fostered by the American Association of Engineers after the War.

The chastizing occasioned by the depression, we hope, will have its good effects. Greed and dishonesty will be shunned as things that hurt. Power and utilitarianism will give place in the minds of men to culture, for which we have starved during the last twenty years, in our wild Babel building of autocrats, bureaucrats, technocrats, and other useless crats and crazies. Consign the manufacture of goods to the Machine. The pendulum is swinging back to normality. Architecture, painting, sculpture, music, religion, philosophy, languages, history, and sciences are coming to the fore. "Righteousness exalteth a nation." Such may be beneficially the pursuit of every person, without danger of oversupplying the market, and in such is a means for the rich man with overbalanced fortune to honor himself in usefulness to mankind, promoting culture, not by gambling huge sums on some old work of art, but by stimulating the development of the arts and sciences—investing in services of culture which really tend toward happiness of man.

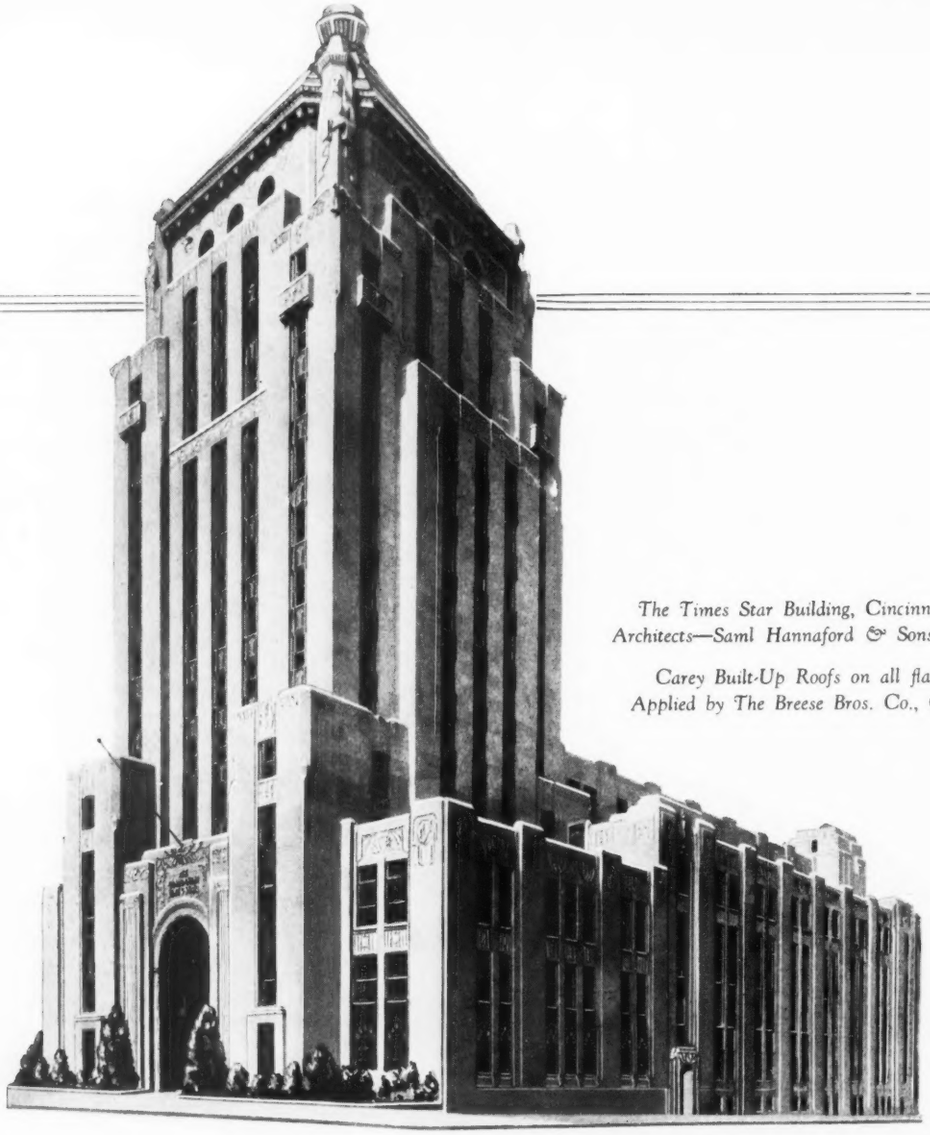
Frederick O. Lewis
of Lewis and Leonard,
Architects and Engineers, New York

To the Editors of Pencil Points

Dear Sirs:

It is my opinion that Mr. Coyle in his article "New Aspects of the Distribution Problem" published in the January issue of Pencil Points is, in the main, correct. However, the article contained a perplexing statement—"They (the American people) do not want to scrap the existing social order at the present time. They are willing to keep the capitalist system if it can be made to come out of its coma and get to work." It cannot be gainsaid that Capitalism is the cause of widespread economic disaster. Capitalism leads to great inequalities in wealth and income; is planless and wasteful; places profits before human welfare; concentrates vast power in a few hands; and means insecurity to increasing masses of the people. Why should the American people be willing to retain a crazy, cruel, profit-mad capitalism which breeds unemployment and poverty? Certainly, when the capitalistic system comes out of its coma and gets down to the serious business of providing economic security and social justice for the masses, it will not still be the "capitalistic system." A "socialized system" will be inaugurated and that is much more desirable.

Homer L. Hylton
Toledo, Ohio



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February

PENCIL POINTS

1933

Vol. XIV

Something for Everyone in the Architectural Profession

No. 2

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by Samuel Chamberlain

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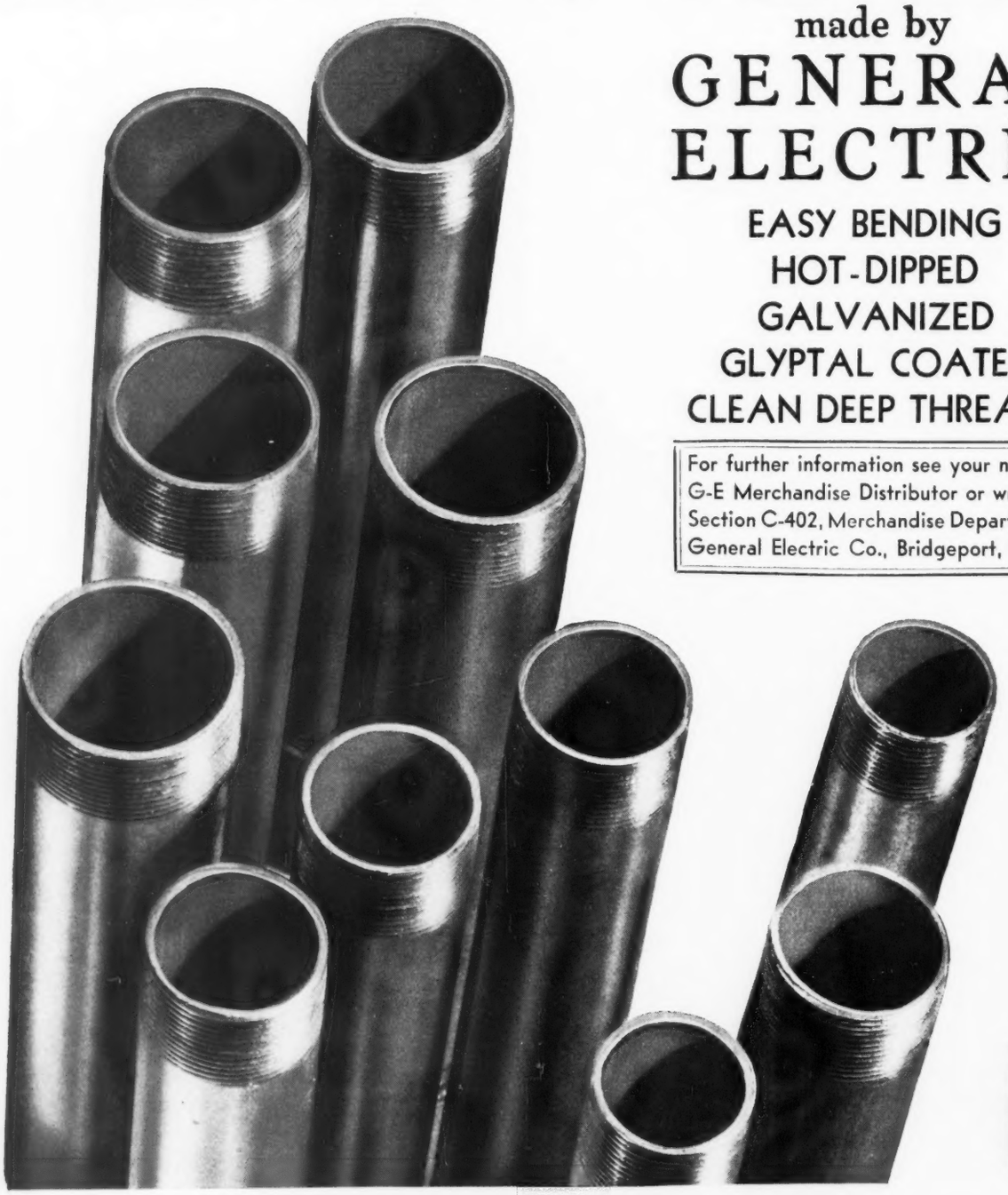

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Pencil Points Series of Color Plates

This print was produced by five linoleum blocks after an original water color. The print is nearly a facsimile of the water color and the characteristic brush marks of the painting can be seen in the print. Considerable use was made of overlays in this subject, particularly on the old house itself. As the impressions from the different blocks were made one right after the other without waiting for the preceding color to dry, a considerable range of color resulted through the blending of wet pigments. Twelve colors were mixed and in use on the slab, several colors being used on some of the five blocks.

"DESERTED"

FROM A COLOR BLOCK PRINT BY ERNEST W. WATSON

PENCIL POINTS

Volume XIV February, 1933 Number 2

The Budget Fetish and Public Works

Doubt is being expressed by leading economists, ever more often and emphatically, as to the necessity or advisability of laying so much stress on balancing the current Federal Budget. Virgil Jordan, Economist of *The Business Week*, pointed out not long ago that:

"Those who so ardently urge a balancing of budgets and curtailments of public expenditures during depressions are gluttons for punishment, for they, in the last analysis, must pay the price either in increased taxes or diminished income. They may imagine that they can pass it on or spread it out through consumptive taxes, but they are mistaken, for sales taxes levied to help pay interest to public bondholders ultimately come out of capital and profits in the form of lower business volume. So long as so large a part of the public liabilities are fixed and sacred as debts and armaments are, deflation of public expenditures is bound to be one-sided and to let the wind chiefly out of business and its customers. The process is apparently endless also; for every time the purchasing power of public employees is reduced, the tax-paying power of business concerns and real-estate owners is curtailed and further economy becomes necessary. In fact, except for debt charges, there can be no reduction of public expenditure which does not curtail private expenditure and therefore tax-paying capacity in an ever-widening circle."

To us, this seems like clear common sense.

Such organizations as the National Economy League and the National Committee for Economy in Government formed by the National Association of Manufacturers are vigorously prosecuting a campaign to reduce government expenditures. So far as their programs are aimed at the elimination of graft and waste, we are with them, but when they advocate cutting down on legitimate government expenditures in the public service and urging reduction of the public works program, rather than an increase, almost vital in a depression, they seem to us very short-sighted. Their proposal is like advising amputation of an arm as a cure for a broken leg. Buying power of a large portion of our economic organism is seriously crippled. The remedy is emphatically not to cut it off in another place.

There is more government and bank currency extant in this country now than at the height of the boom in 1928-29. The difficulty is that it is not moving. People are not spending it. Business is not spending it. They may not have it or they may be afraid to spend it lest they have none tomorrow. The fact remains that, for whatever reason, it is not circulating. In the face of a condition like that should we not be thankful that the spending power of the government is still there, that we can as a whole people still keep a large volume of money at work paying wages and buying goods and services?

Individuals cannot be blamed for hesitating to spend now. Business seemingly cannot be either persuaded or coerced into spending. The long extended effort of the Federal Reserve System to force money out of the banks and into circulation—in other words the attempted inflation of credit—has been ineffective. What means is there then left, other than government spending, to bring about the accelerated consumption necessary to make the wheels go around again?

It is pretty generally accepted that production is so well organized that it can easily take care of more than our needs—the emphasis now turns to consumption. If we cannot or will not consume effectively as individuals or as businesses, should we not be willing and even eager to consume collectively as a nation?

We are not advocating a permanent and perpetual increase in the rate of government spending, to be carried on year after year in depressions and booms alike. It seems sound, however, to use the spending power of the government as a balancing force, to be applied vigorously in depression times and held back in times of prosperity.

Looking at the Federal budgeting system from a little longer point of view it is interesting to note that it has been operating since 1921 and that during the period 1921-1930 government revenues exceeded expenditures by over three billion dollars. Not only that but the government debt was decreased during that time by almost eight billions. Even if the deficits of the past three years up to June, 1933, should reach as much as five billions we should still as a nation be almost six billions ahead of our position in 1921—and no one questioned our credit then. Neither should anyone question it now, whether the budget be balanced today or not. We have the natural resources, the manufacturing equipment, and the man power to balance it tomorrow. For today our problem is to organize and stimulate consumption. The government, by means of a large and immediate increase in public works expenditures, is the only agency that can lead the way with any hope of adequate results.

"CLOVELLY"—FROM A COLOR BLOCK PRINT BY ERNEST W. WATSON

The original print measures 8½" x 10" and was printed from five blocks, some of which were inked with two or more colors. A total of ten different pigments was used.

The Work of Ernest W. Watson

A Word of Appreciation and Some Technical Notes

By Rayne Adams

Editor's Note:—*This article was written just before the author's untimely death a year ago last April. Its publication at this time may revive memories of the man himself among his many friends in the profession and of his many valuable and interesting contributions to* PENCIL POINTS *among readers who were not fortunate enough to know him in person.*

While his mastery of color as evidenced in his block prints constitutes, perhaps, Ernest Watson's chief claim upon our interest, it is proper to remark that it is nevertheless only one of the mediums in which he has manifested his talent. And since this mastery is the fruit of long years of study it is proper also to note, in order to locate Watson in terms of space and time, something in the way of biographical note. He was born in Conway, Mass., and he spent his early student days at the Massachusetts School of Art and at Pratt Institute in Brooklyn. It need hardly be said that his subsequent period of travel abroad and the many years following in which he taught drawing and block printing at Pratt Institute constituted only a continuation of his own studies. He has given much time to pencil illustration and an example of his work with this medium is shown in this issue. Such drawings as this speak in the language of the drafting room and they tell their own story. His linoleum block cuts, however, while they need no comment to point out their admirable qualities, involve a special process in their making—and in order to understand them with any completeness one should understand the way in which they are made.

EXAMPLE OF A WOOD ENGRAVING BY TIMOTHY COLE

In which tones are produced by controlling the relative widths of the white lines and the intervening spaces.

It is so normal a thing for the draftsman to think of drawing as a direct process that the indirect process of engraving carries with it certain elements of mystification. We are so much in the habit of drawing with pencil, pen and ink, or charcoal, that it wrenches us a bit to think in terms of grooves and relief surfaces from which prints may be obtained. In connection with the admirable block cuts of Ernest Watson, it will not be amiss to make clear just what a linoleum block is at the outset. For a technological process is involved and technological processes are troublesome. To understand them means that not only has one to be able to "bear the pain of thinking" but he will rarely understand them unless he actually "goes through the motions" himself.

In approaching the subject of engraving, it is permissible to present an analogy which will be found in the experience of many. To one to whom English is a native tongue, his introduction to the study of German is a revelation. I recall in my own experience that the first six chapters in the grammar seemed easy; it was so much like English. Then, suddenly, I became aware that by the magic of grammar, the word order was quite different and that it became necessary to hold in suspension a lot of phrases and clauses until one came upon a cluster of verbs at the end of the sentence which, provided you had succeeded in holding the phrases and clauses in suspension successfully, suddenly precipitated their significance.

The situation is not so different with respect to engraving when it is approached by one innocent of any method of graphic representation except the direct one. The beginning of the subject is not difficult to understand; but when the use of color in connection with block cutting is introduced, the whole subject takes on a technological character which may be understood only by practice.

To begin with, it is worth while to clear away certain misconceptions concerning the use of linoleum as a material for engraving. The predicament of linoleum is somewhat similar to that in which the so-called "baser" metals find themselves. Historically, gold and silver have always been considered in the arts as being, in some way, superior to, let us say, iron. And

yet, what collection of gold and silver objects could rival in æsthetic interest the amazing collection of "ferronerie" which one may see in the *Musée le Secq des Tournelles* at Rouen and which has been made generally familiar to architectural draftsmen in the two volumes in which the contents of this museum have been so admirably reproduced? The distinction between the "higher" and "baser" metals, like the distinction made between wood and linoleum in their relation to engraving, is wholly invidious. Linoleum, as is well known, first made its way into public consciousness as a material for floor covering. It is a strange commentary on the habits of thought that the fact that it serves this purpose adequately should somehow react unfavorably upon its use as a material for engraving. Yet, had it first been used as a material for engraving, its subsequent usage as a covering for kitchen floors would have seemed a sort of degradation. Moreover, it suffers from the unhappy misconception that it offers a possibility of making printing blocks inexpensively and easily, and that for this reason it is somehow inferior to wood. Of course, to the judicious, no comparison will be made between the two materials save to note that each in its own field has special possibilities and limitations.

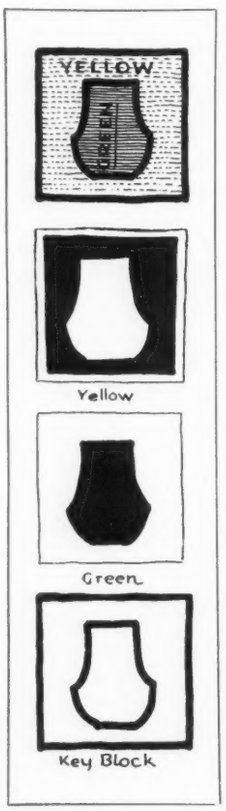


FIGURE 1

Whatever these special limitations may be, the elementary woodcut and the linoleum block cut have much in common with respect to the method of their making. And it is easiest, I suppose, in describing this method, to deal with it as exemplified in the making of woodcuts. At the risk of digging up bones with which you are familiar, I am going to preface the summary of linoleum block cutting by stating that all engraving falls essentially into one of two classified processes, exemplified by the copper plate engraving and the woodcut. In the first, the lines which show in the print correspond to *indentations* in the surface of the plate; in the second, the surfaces which transmit the ink to the paper in the process of printing are left *raised*, by the cutting away of the material adjacent to them. The linoleum block cut belongs to the latter category. Yet, there is a difference between the "woodcut" and the "wood engraving," and it is necessary to note it in order to show the essential character of the linoleum block cut. The earliest masters, such as Dürer, made "woodcuts." The "wood engraving" was not developed until the very end of the 18th century, notably by Bewick. And it may be noted that in the typical woodcut, such as those made by Dürer, the cutting was done on the "side grain" of the wood; in the wood engravings made by Bewick, the engraving was done on the "end grain" of the wood.

The wood engraver can carry his tool across the end grain of his block in any direction with equal ease. Furthermore, his engraved lines can be very fine, mere scratches on the polished surface of the end grain wood block, and spaced so close together as to produce the effect of tones. Tones of any desired values can thus be produced by controlling the width of the white lines and the intervening spaces. The Timothy Cole engraving herewith illustrated demonstrates this point clearly.

And this brings us to an understanding of the limitation of linoleum. The thin bridges, which can be engraved on the end grain of the wood block, cannot be successfully cut in linoleum. The material will not "stand up." And, in consequence, the linoleum block finds its proper sphere in being considered not as an engraving, but as a cut.

Linoleum, then, is primarily a material which lends itself to broadly conceived masses; not to fine outline work, nor to tonal work. In this special field it is superior to the wood block because of the relative ease with which it is worked, giving, as it does, results that are quite as good as those obtained by the latter.

In printing in black or white or monotone, it is obvious that only one block is required. In carving this block, the general method is as follows: The linoleum is usually mounted on heavy cardboard, and its surface scraped with a razor blade and thus brought to a glass-like finish. The design may be indicated directly on the block by use of brush and India ink, or it may be transferred (i.e., offset) by means of carbon paper, or by direct transfer through the use of a hand press. The cutting of the block may be done with a common knife, as was done by the old woodcutters, but in the generality of cases a gouge or a veiner is used. (A veiner is a wood carving tool, the cutting edge of which is a U or a V.) When the block is cut, it is inked by means of a printer's brayer (roller), placed in the press and printed. That, in outline, is the simple method involved.

It is in using various colors in printing that the process becomes complex and it is a process that calls for patience and experience. Essentially, the process is the same as that described for monotone printing, though it involves several distinct steps. It is necessary to decide first upon the color scheme, and secondly, to make, in succession, blocks which will carry only a particular color in the printing process. The steps, in outline, are as follows: Suppose the drawing be an utterly simple one like that shown in Figure 1, in which the design is carried in black, the body of the vase green, the background yellow. Transfer this drawing to a linoleum block and cover the outline carefully with India ink. Then cut away those portions of the surface not covered with ink. This gives the "key" block. Transfer an impression taken from the "key" block to a fresh block intended to print

the yellow background. Paint the background area with India ink, and cut away those portions of the surface not covered with ink. This completes the yellow block. Repeat the process for the green block. Print the yellow block, then the green block, and finally, the black or "key" block.

It seems simple enough, in this bald summary, but the intricacies of craftsmanship are considerable. Most important of all considerations is the exactness with which the transfers from the key block are made, because it is essential that the design be transferred to each block in such a way as to insure proper "register." There are various means by which this proper registry is obtained, but for a discussion of these the reader may properly be referred to the text of Ernest Watson's own book on the subject. Such a bare outline can only suggest in a most elementary manner the process by which Watson obtains his marvellously intricate color patterns. In using a black "key block" the process is made relatively easy; it is in such designs as that shown on the frontispiece, where there is no black "key" block, and where delicate gradations are introduced with one color superposed over another, that a profound knowledge of the technique of cutting and printing is involved. But enough has been said to suggest the ways in which these magical effects are achieved; the rest must be left to be discovered by those who, interested in making linoleum block prints in color, shall find through trial and error the ways and means to achieve success.

AN OLD SWISS CHALET AT ZERMATT

FROM A PENCIL SKETCH BY ERNEST W. WATSON

This drawing was made on kid finish Bristol board and measures, in the original, 7½" x 8⅛".

THE NORTH TOWER OF BOURGES

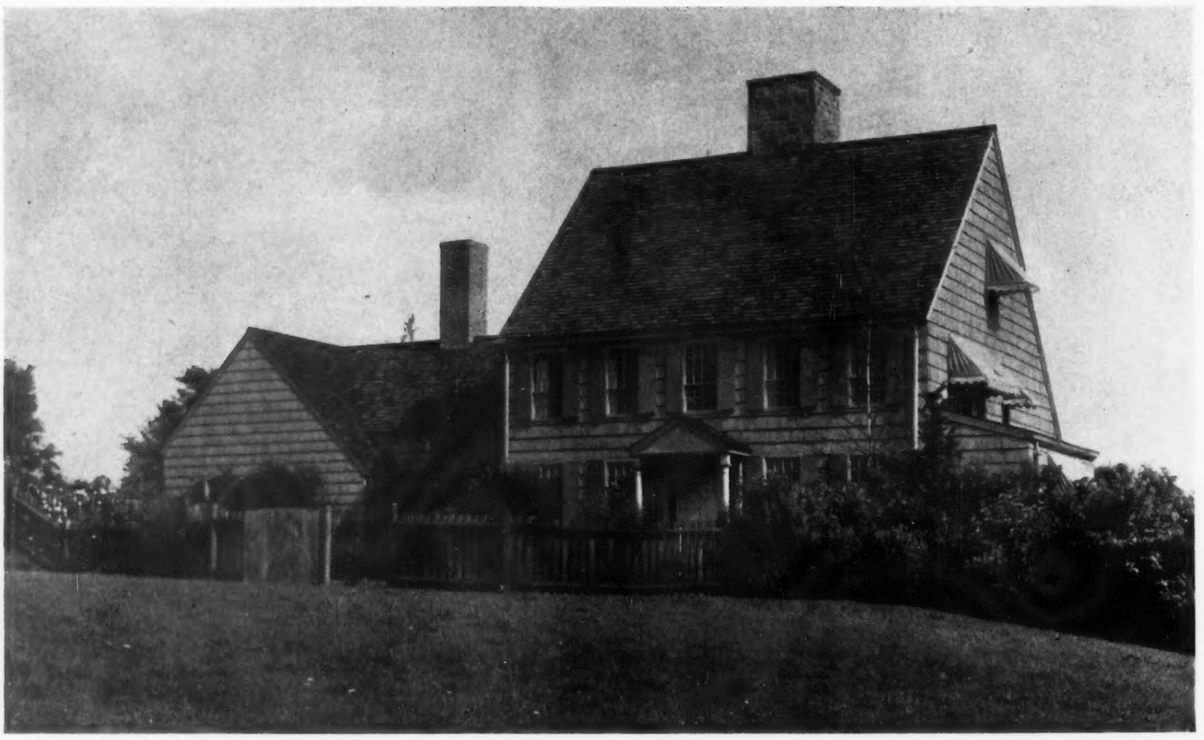
FROM A CRAYON DRAWING BY W. J. HUCHTHAUSEN

Size of original, 9½" x 13"

PONTE PIETRA, VERONA

FROM A CRAYON DRAWING BY W. J. HUCHTHAUSEN

Size of original, 10¼" x 14"



THE SPERRY HOUSE, SOUTHBURY, CONNECTICUT
Cameron Clark, Architect

Early American Forms as Precedent for Present-day Small House Architecture

RESIDENCE OF MRS. FRANK VAUGHN, SOUTHBRIDGE, MASSACHUSETTS
Mrs. Mason M. Condict, Landscape Architect

THE MONOGRAPH SERIES

RECORDS OF EARLY AMERICAN ARCHITECTURE
AS SOURCE MATERIAL

EDITED BY RUSSELL F. WHITEHEAD, A·I·A

VOLUME XIX

MONOGRAPH ONE

Cape Ann: Some Earlier Colonial Dwellings in and about Annisquam, Massachusetts

BY FRANK CHOUTEAU BROWN

Photographs by Arthur C. Haskell

Among the visual difficulties confronting anyone trying to reconstruct in his imagination a picture of the conditions under which the first settlers in the colonies were compelled to live—conditions that were instrumental in shaping the character and form of the early dwellings first built along its shores—are the false ideas obtained, all too unconsciously, from viewing houses given early dates that are still to be seen in certain localities, particularly in New England.

Therefore the "Pioneer Village," reconstructed upon the margin of Salem Harbor two years ago for the celebration of the Massachusetts Bay Tercentenary, which not only showed several full size examples of the various types of dwellings built during the first few years; but also illustrated the means employed in fashioning lumber, making bricks, obtaining salt, and otherwise securing a precarious livelihood under the most primitive conditions, supplied for the first time a clear and definitely visualized background, against which it was possible for almost anyone to project a self-convincing picture of the lives and customs of the early settlers.

There one can see not only the crude makeshifts of the first winter shelters, but also the first fully constructed or fashioned buildings; as well as the more completely framed and carpentered houses of one and even two stories, which it is quite impossible to find in their original unadorned simplicity in any of the very earliest structures remaining today. Always they carry the date, based upon that portion earliest built, and now incorporated indistinguishably into a form much enlarged and developed from the aspect that the earliest portion alone had first assumed. And this holds true, even in those rare instances when the existing structure has been properly and authoritatively reft of its increment of generations of minor changes, and restrainedly "restored"!.

Considering three hundred years of wear and tear, accompanied by the early and continued dangers of fire, the many Indian wars, the perishable and often hastily and inexpertly prepared materials of which the houses were compounded; and the primitive and sometimes unskilled manner in which materials were early employed, it is certainly not surprising that so few very early buildings exist to show the true type of primitive Colonial dwelling, but rather the surprising part is that we can still point to any examples at all!

Perhaps the Peak House in Medfield still provides us with one of the best pictures of the early dwelling, with the Blake House in Dorchester (1648) for an illustration of its immediately succeeding type. But certainly in the older portion of the Riggs House, in Riverdale, on Cape Ann, we can today secure the best idea that is possible of one of these earliest type houses. The Alexander Standish house (Duxbury, 1666) and the William Harlow house (Plymouth, 1677) are both gambrel roofed; and, as such, are undoubtedly in the second manner—quite similar to the "newer part" of the Riggs house, as it appears herewith. The first built Riggs dwelling was a two-room house of roughly

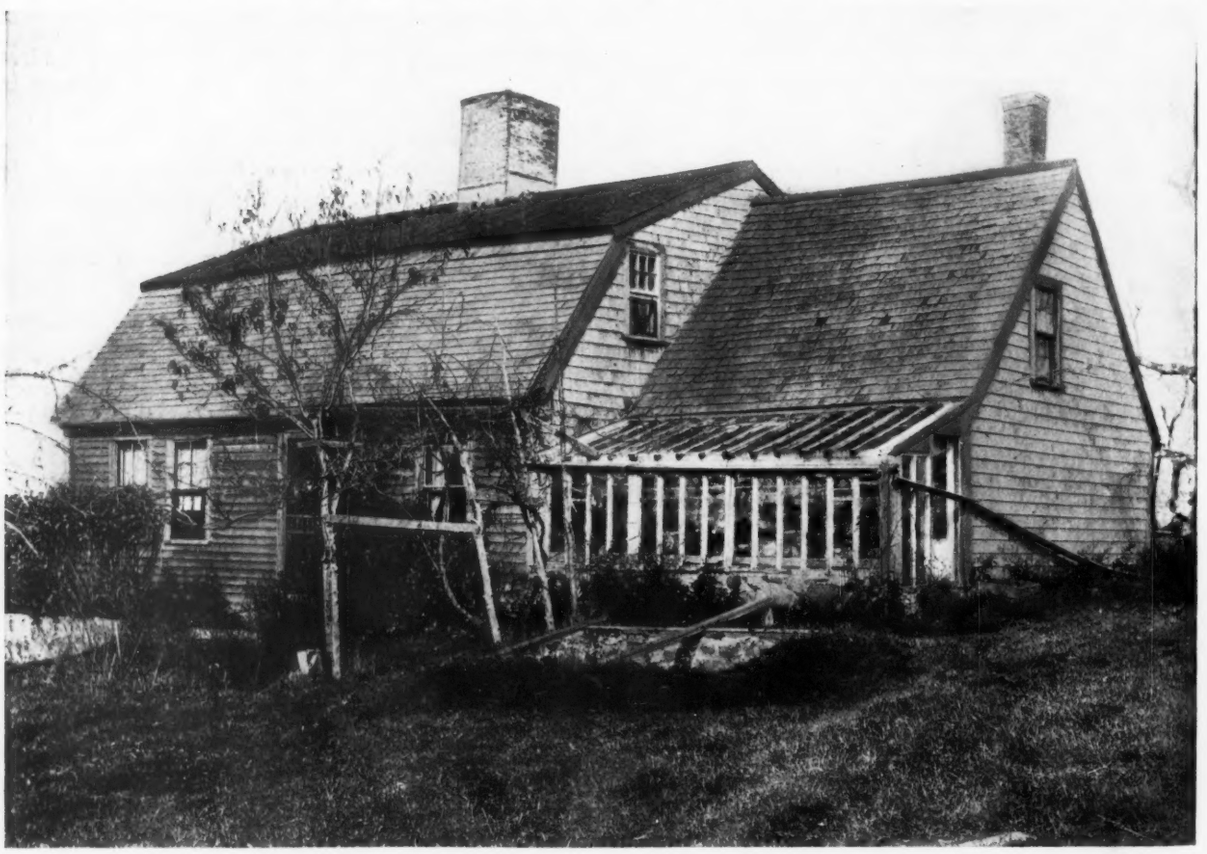
squared logs, laid horizontally one on top of the other, making a wall about 15 inches thick. A roof of rather steep pitch was added, unbroken by any windows until about twenty years ago, when a dormer was cut into the roof on the side toward the water. The gambrel portion was added at the west end of the earlier house about forty years later.

As soon as a fully framed structure was attempted it was natural that the New England settlers should turn to the mediæval type of timber-framed dwelling, with which they had been familiar at home, as a model for their construction in this new country. Consequently, the heavy sill-and-cornerpost frame, with plate and girt mortised and held with oak pins, came naturally into use. When, as at first, beaten earth was used as the floor, the sill was merely laid upon this base, or a few flat stones were placed at the corners or along the length for better support. The "raised sills" showing above the floor levels in a few houses (no less than four such may still be seen about Cape Ann) are a survival from this very time.

These framed structural outlines were then boarded upon the outside, usually with inch or inch-and-a-quarter thick boards, running perpendicularly from sill to plate or gable rafter ends; and pinned or nailed to the larger horizontal timbers, with small studdings used only to frame around a door or window opening. Sometimes these boards were tongued and grooved and molded at the edges; sometimes they were merely set close together and the spaces between filled with mud or clay, lime mortar or plaster.

The one-story house has often only one or two rooms upon the lower floor with an attic overhead, frequently left undivided. (Indeed, it is usually still found in this latter condition in many cottages along the coast, or inland in the country, built from a hundred to a hundred and fifty years ago!) At first access to this attic was by scuttle and ladder; replaced a little later by a steep stair running sharply up from beside the "Hall," or in the front entry.

The chimney was the most important part of these early houses. Built of stone or brick, set in mud or lime shell mortar, it was usually located at one end of these simpler types of dwellings, which were then most naturally enlarged by adding another room or two beyond the chimney, thus at once obtaining access to it and doubling the house in length. The next enlargement usually took the form of a long rear



THE RIGGS HOUSE—1660-1700—RIVERDALE, CAPE ANN, MASSACHUSETTS

[2]

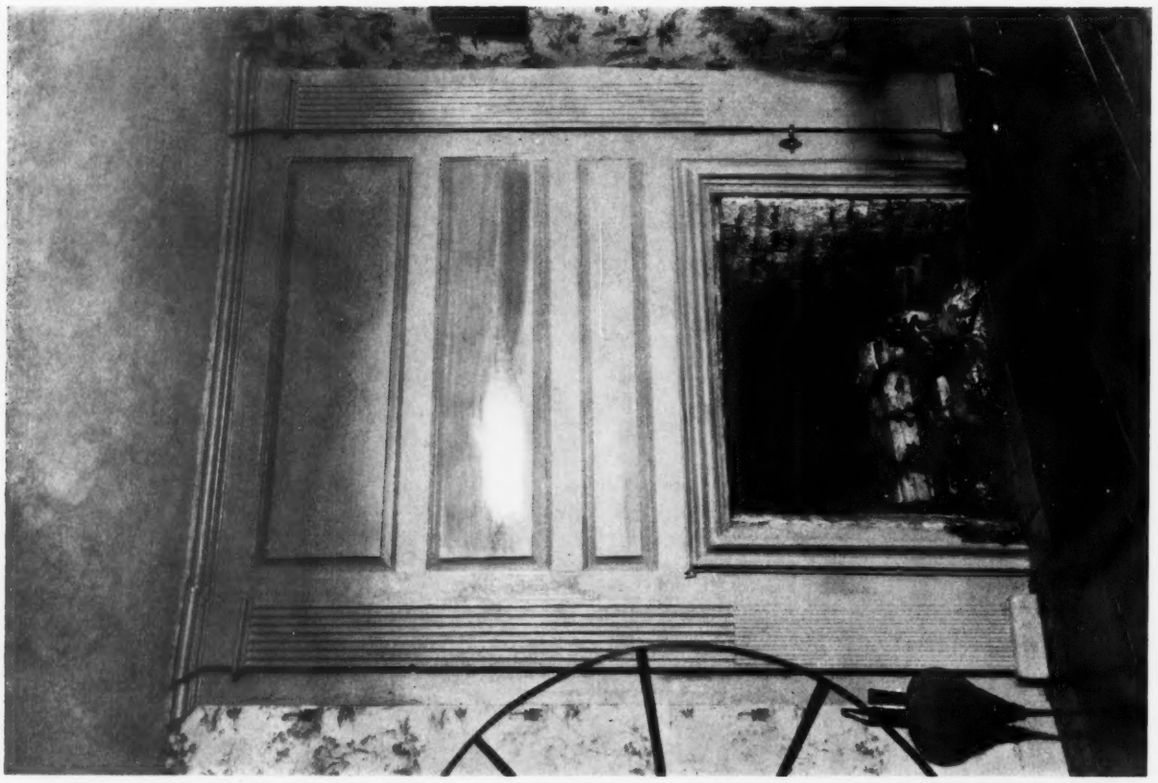
THE RIGGS HOUSE—1660-1700—RIVERDALE, CAPE ANN, MASSACHUSETTS

"leanto"; with possible other later additions developing as end "ells" or further "leantos" increasing the length of the structure, sometimes to a very considerable extent.

Possibly the favorite means of enlarging the early houses, however, was by leaving the older portion, nearly undisturbed, to serve as a kitchen ell; and adding a new—and very much larger house—usually at one or the other end. Sometimes this was done, as in the Riggs house here shown, by continuing the new part in length along the same frontage as the old, which almost invariably faced to the south. Sometimes it was added either at an angle, or quite at right angles to the older structure, the new front then often being to the east or west. This later method was perhaps often adopted from the fact that it was by this means possible to face the house anew upon the road; which had probably been built long after the original cottage had been informally placed facing south across some pleasant pasture, or looking out upon some livelier water view.

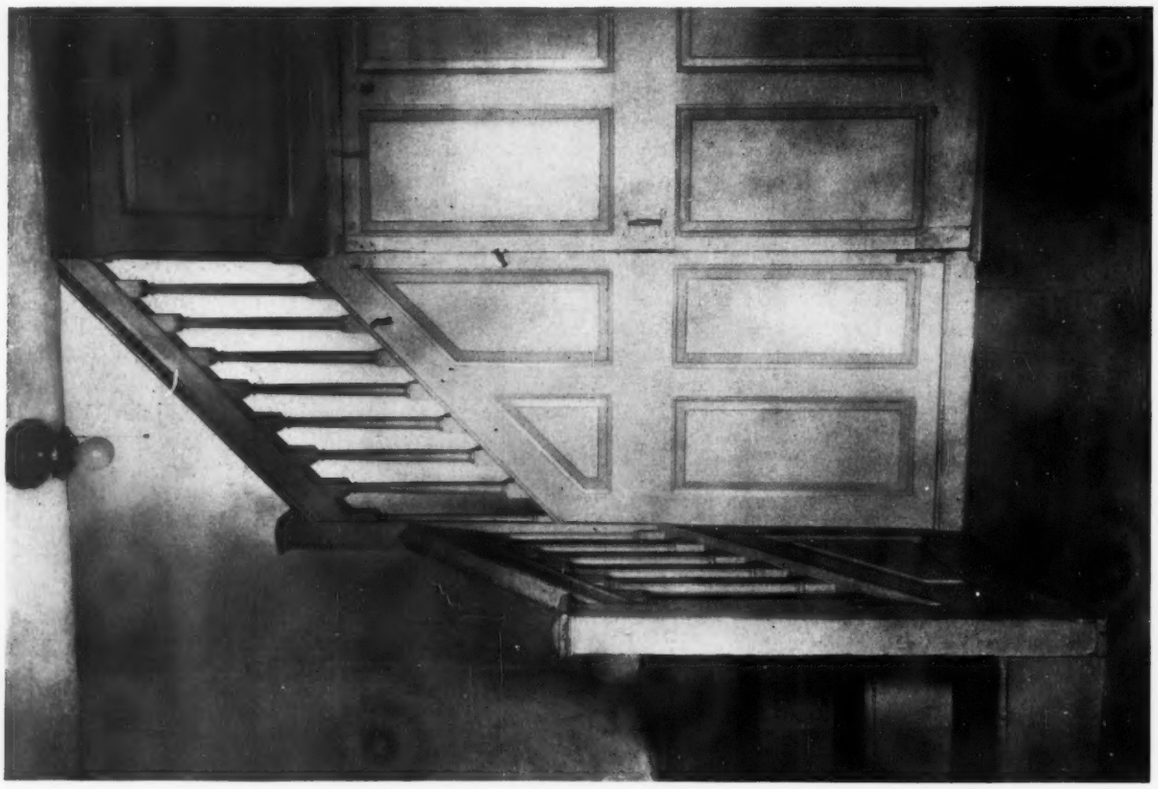
Thomas Riggs, "scrivener," the second Town Clerk of Gloucester and its first Schoolmaster, settled on Cape Ann at "Goose Cove," in 1658, and built the pitch-roof portion of the present dwelling of squared pine logs 15 inches thick, probably shortly previous to the year 1660. The "gambrel" part was added by a grandson, George Riggs, about 1700. This dwelling still stands in Vine Street, near the Riverdale Willows, only a short distance beyond "Church Green," which is just north and at the back of the well known White-Ellery House, generally dated as 1703 or 4, but probably built nearer 1710. This was the parsonage of the first minister, Rev. John White, of the Parish Church that stood across the Green. From 1738 onward it was used as a Tavern, or Ordinary, by James Stevens and his successors. One of the first houses in the Massachusetts Bay Colony (though not actually erected on Cape Ann) was the Community House, the materials for which were brought over from England. It stood just across on the mainland, in that part of Gloucester known as "Stage Fort Park"; and was afterwards removed and re-erected in Naumkeag, now Salem.

Another early house nearby was built for the home of Richard Dike or Dyke. A date as early as 1643



Fireplace

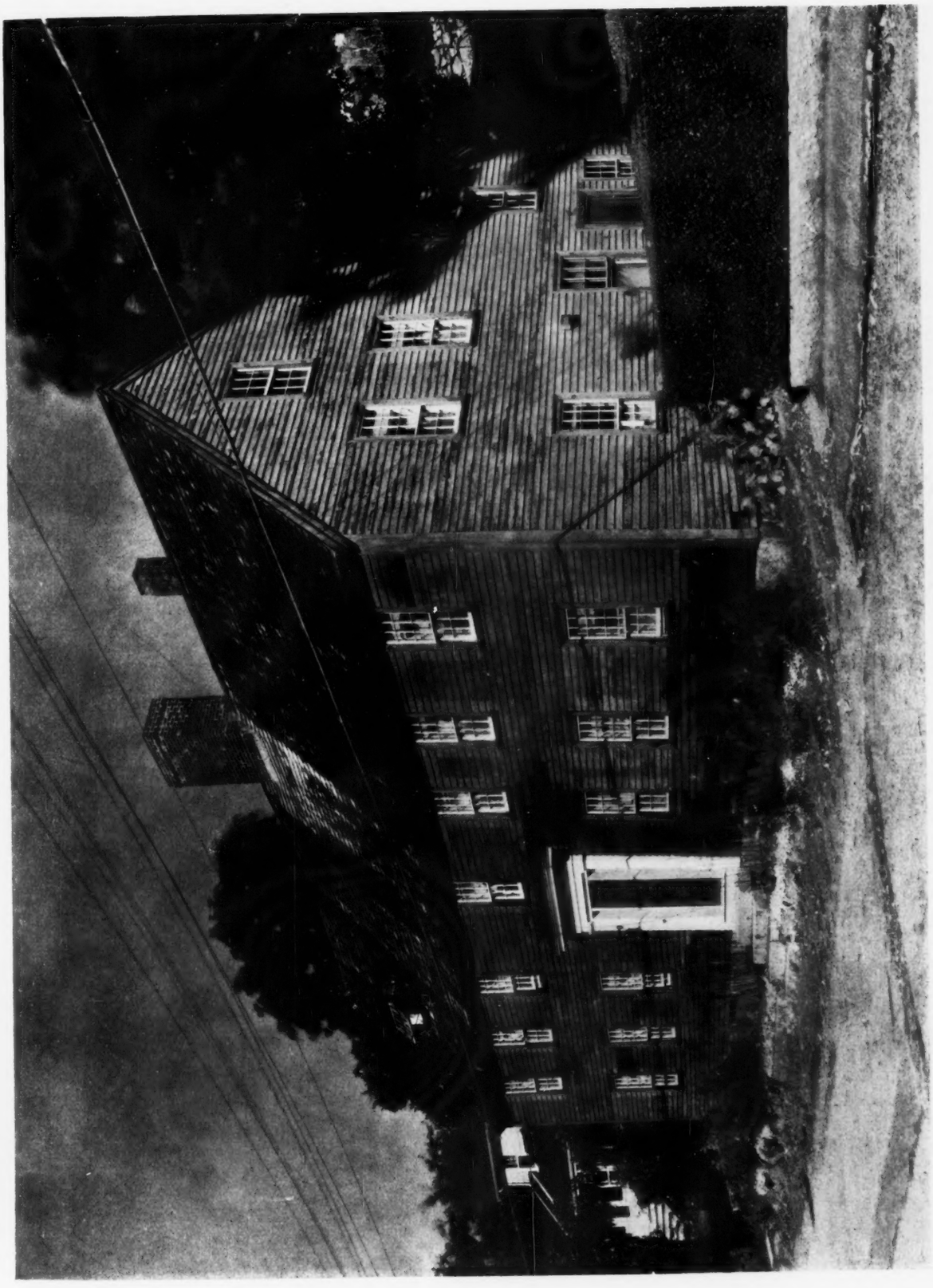
THE RIGGS HOUSE—1660-1700—RIVERDALE, MASS.



Staircase—First Floor

THE DYKE-WHEELER HOUSE—1668—GLOUCESTER, MASS.

[4]



THE HARRADEN HOUSE—1657—ANNISQUAM, MASSACHUSETTS

Paneled Room End

THE DYKE-WHEELER HOUSE—ABOUT 1668—GLOUCESTER, MASSACHUSETTS

[6]

has been claimed for this dwelling; but it was more probably built much nearer 1668, at which time this property—with a dwelling upon it—was transferred to John Fitch. It was again sold in 1714 to John Colt; and the pleasantly proportioned paneling of the principal room, and the stairway, are probably both from this or an even later date. Bought by Finson Wheeler in 1834, it has been known by that name ever since; and has now been somewhat modified to serve the purposes of a summer cottage, which it does excellently well.

Most of the historical background of the early years of Cape Ann best relate to the history of its largest city, Gloucester. But those who know it only for that picturesque, overbuilt area surrounding the irregular shores of its busy Harbor; or for the summer reaches of its rocky moorlands from Eastern Point through Bass Rocks to Land's End; or even the teeming artist colonies of Rockport and Bearskin Neck, can know little or nothing of old Annisquam, oldest settlement of all the Cape. And indeed, few do know much about this sleepy little settlement, stretched out along the landlocked waters of "the Cove." The casual sight-seer, touring around the Cape, passes it entirely by; as does also the usual summer sojourner, going back and forth between the summer colonies fronting westerly across Ipswich Bay and the stations at Gloucester or Rockport. To feel its old-world charm one must turn aside from the main highway, down a narrow lane coming out upon the "floating bridge" that crosses the mouth of the Cove, or if coming from Bay View, swing sharply right back of the church at its innermost tip, so continuing along the narrow winding Leonard Street, from which circuitous lanes lead backward and forward, bending around rock outcrops, old stone benches and huge butternut trees to connect with backyards of places fronting the waterway, or reach the much-used side doors of houses whose fronts overhang other inner yards, or overlook low-lying roofs to the far wind-blown stretches of Winnegoeschieke—formerly Coffin's—Beach.

Embowered in the long untrimmed verdure of thick hedges, or heavily limbed low-hanging trees, many an old house lies quietly sleeping and hidden, a mere gravel-toss from a practicable street; that may nevertheless end unexpectedly—and somewhat suddenly—at the water's edge; or against a heavy sea wall; or merely die out of existence between two or three old fenced yards and as many angularly sloping cottages, helter-skelterly faced to any and all points of the boxable compass.

On this limited, and irregular area, between 1631 and 1633, a few men and families from Plymouth effected the first permanent settlement on Cape Ann. Meanwhile the fishing at Gloucester was being established and that town was finally incorporated in 1642. The same year, according to early records, a building "boom" was the cause of setting up a sawmill at Riverdale, which was about midway between Annisquam and Gloucester. Aided by the output of this mill, the second generation of settlers covered their early squared log houses with clapboards, laid sawed board floors, and applied split shingles over end wall boarding and on roof scantlings.

The first permanent settlers at Annisquam were made into the Third Parish in 1728, while the third meeting house of the First Parish had been raised on "Meeting House Green" in May of 1700, being described as "a building 40 by 40, with 16-foot posts, plastered with lime and hair," and costing £253.

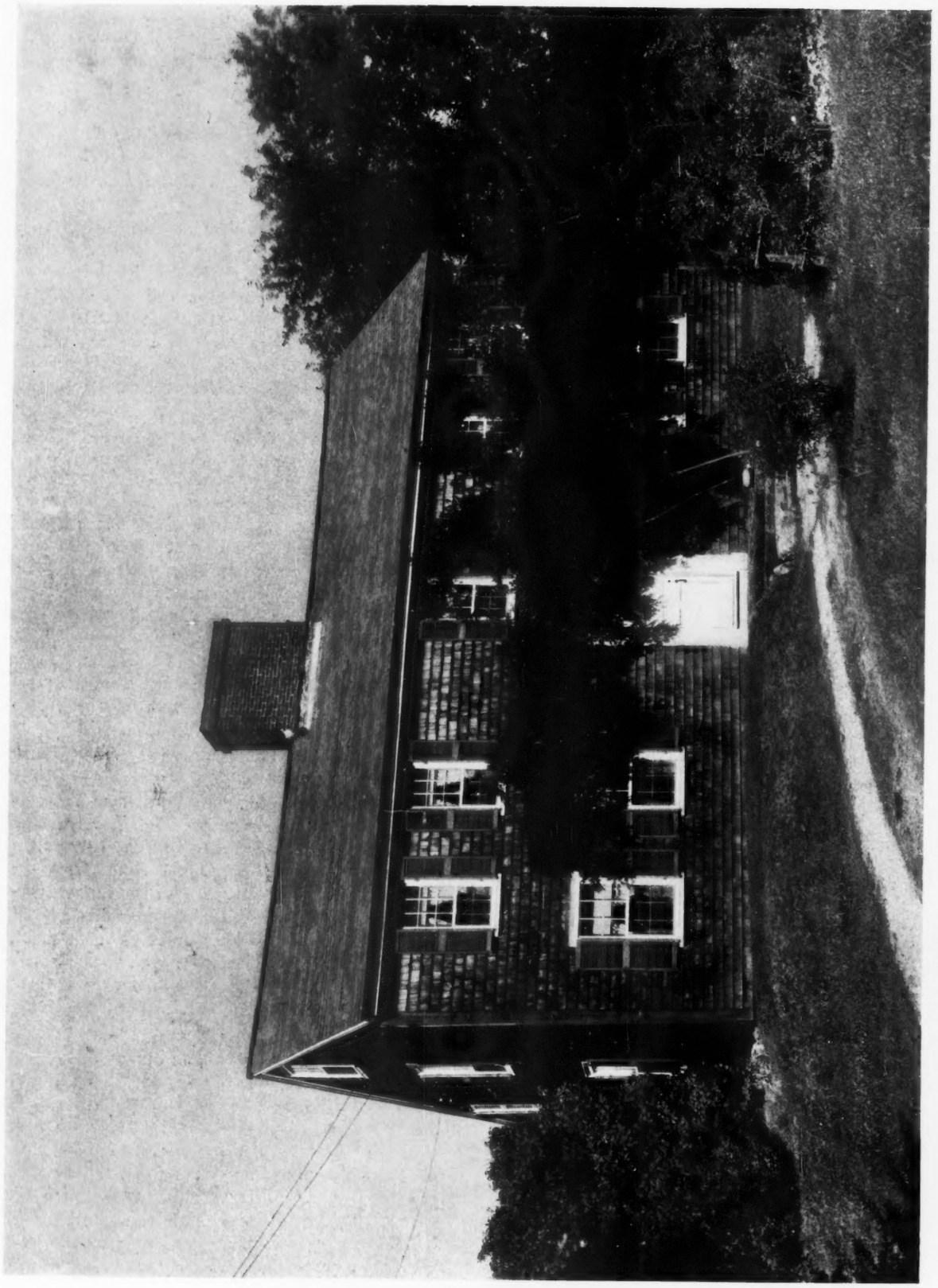
Meanwhile the early simpler square little houses, scattered about Riverdale and Annisquam, were being lengthened and enlarged, "raised" to an added story height; and soon—near the end of the Seventeenth Century—a few four-room, full two-story houses were being built. Along the shores of "the Cove" old single houses with huge chimney at one end were also being lengthened by building another dwelling upon the outer side of the chimney, originally perhaps to house a younger generation of the same family; later to pass by marriage into quite alien hands. A number of old examples of this stand about the Cape, one being what is now known as "The Castle," built shortly after 1700 upon the bank of the Cove, with a huge chimney top only to mark its age from the passing roadway, though from the water it may be seen to better advantage.

Nearby is the house built almost as early, the home of Madame Goss, used as officers' quarters in the War of 1812, but now hopelessly changed upon the outside; as is also the case with the Old Tavern, built just before 1700, and used as a soldiers' barracks in 1812. This still stands across the street from the Harraden house. The latter, with its earliest portion built about 1657 for Edward Harraden, one of the first settlers, has since been much changed about, added to, and built over, having now two "leantos," of different levels, a one- and a two-story section, at the rear.

Continuing along the main street, passing the village center store and post office, and many cottages of age and charm, the little house on the corner of Arlington Street that is reproduced may be seen—and, almost at the Cove's end, the little gambrel house, built probably soon after 1700, that is perhaps the most perfect of all the remaining cottages of modest appeal and venerable age now to be found upon the Cape.

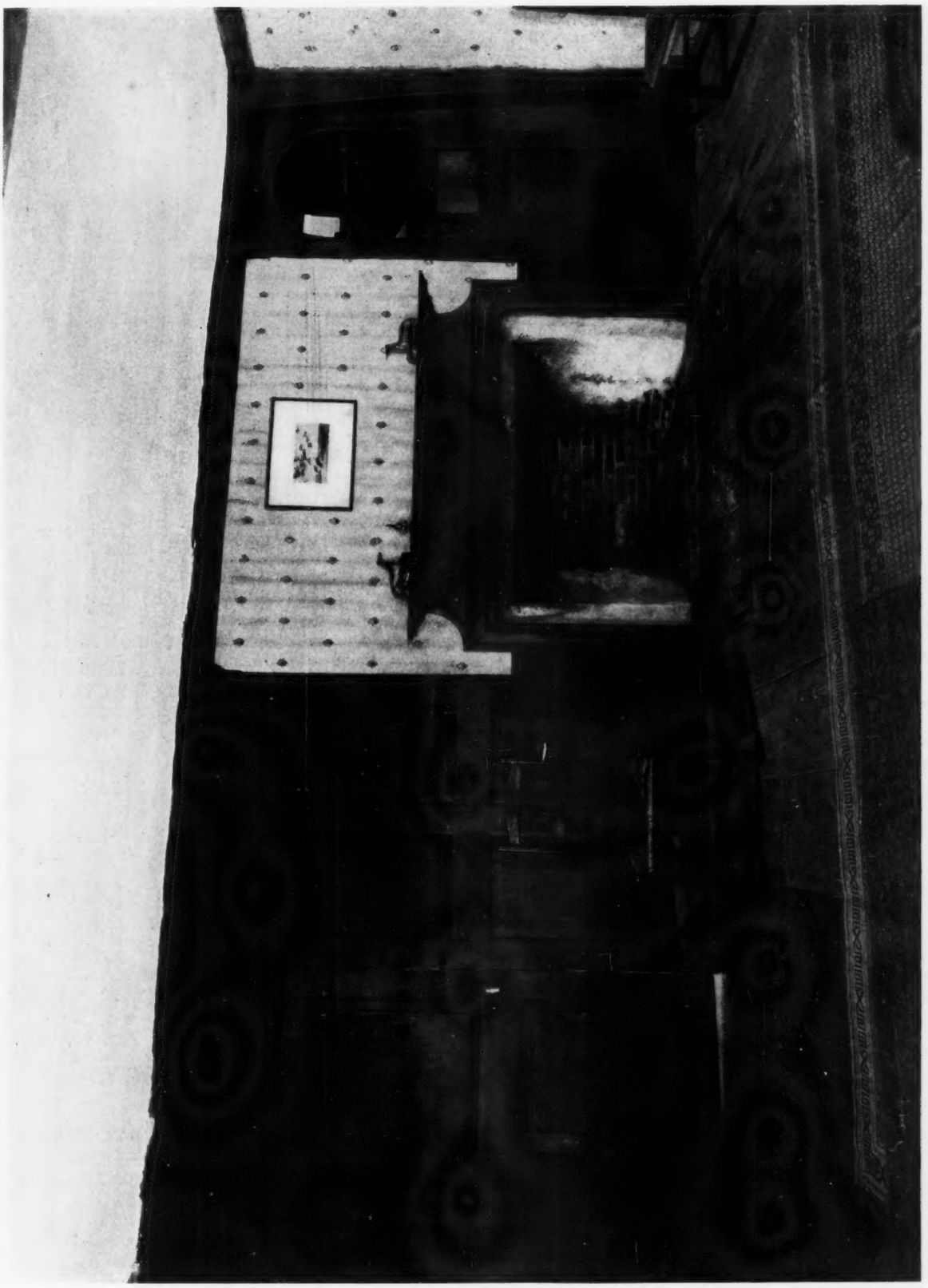
At the "Head of the Cove" stands the old Church. Although the present building dates only from 1831,

(Continued on page 15)

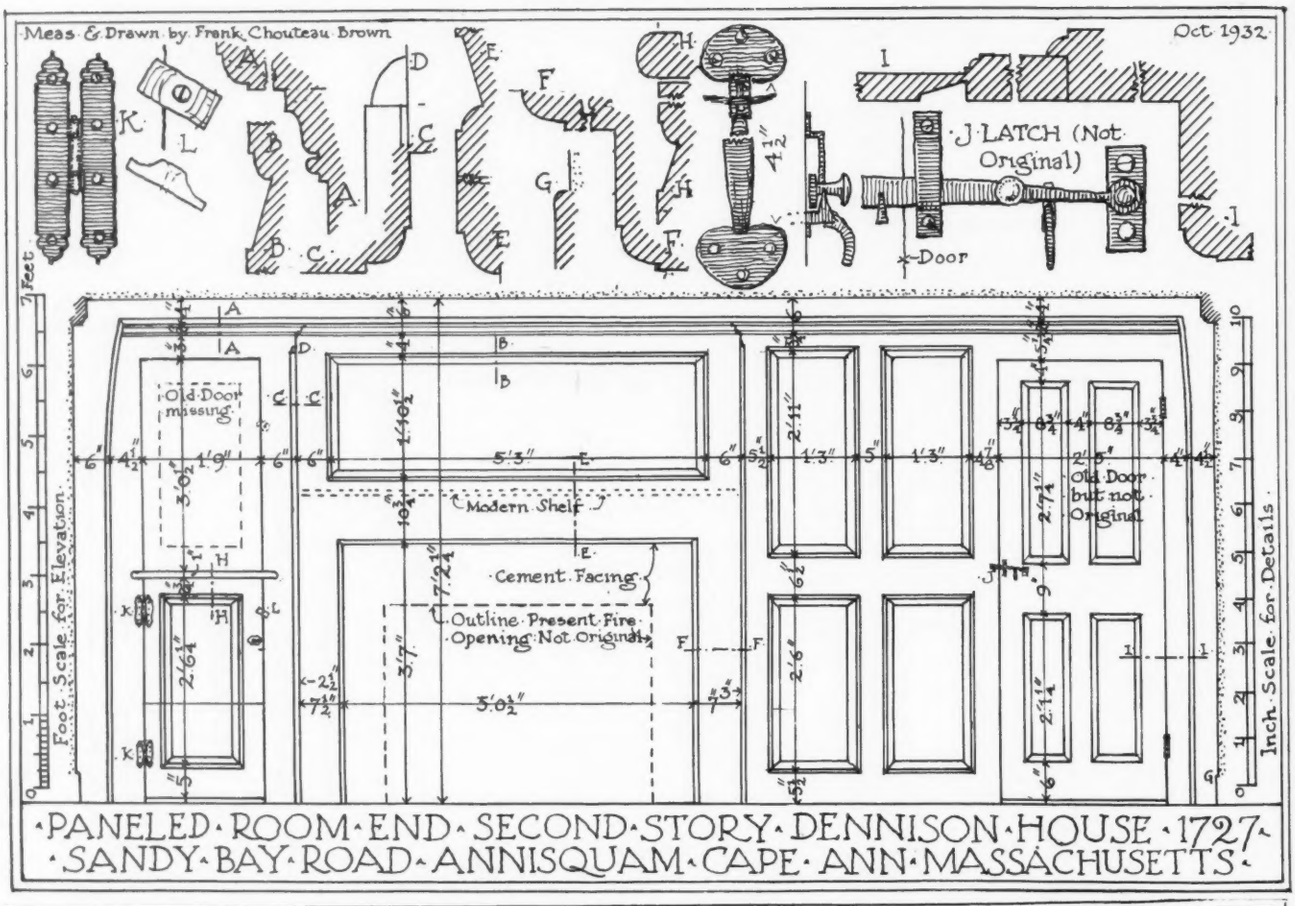


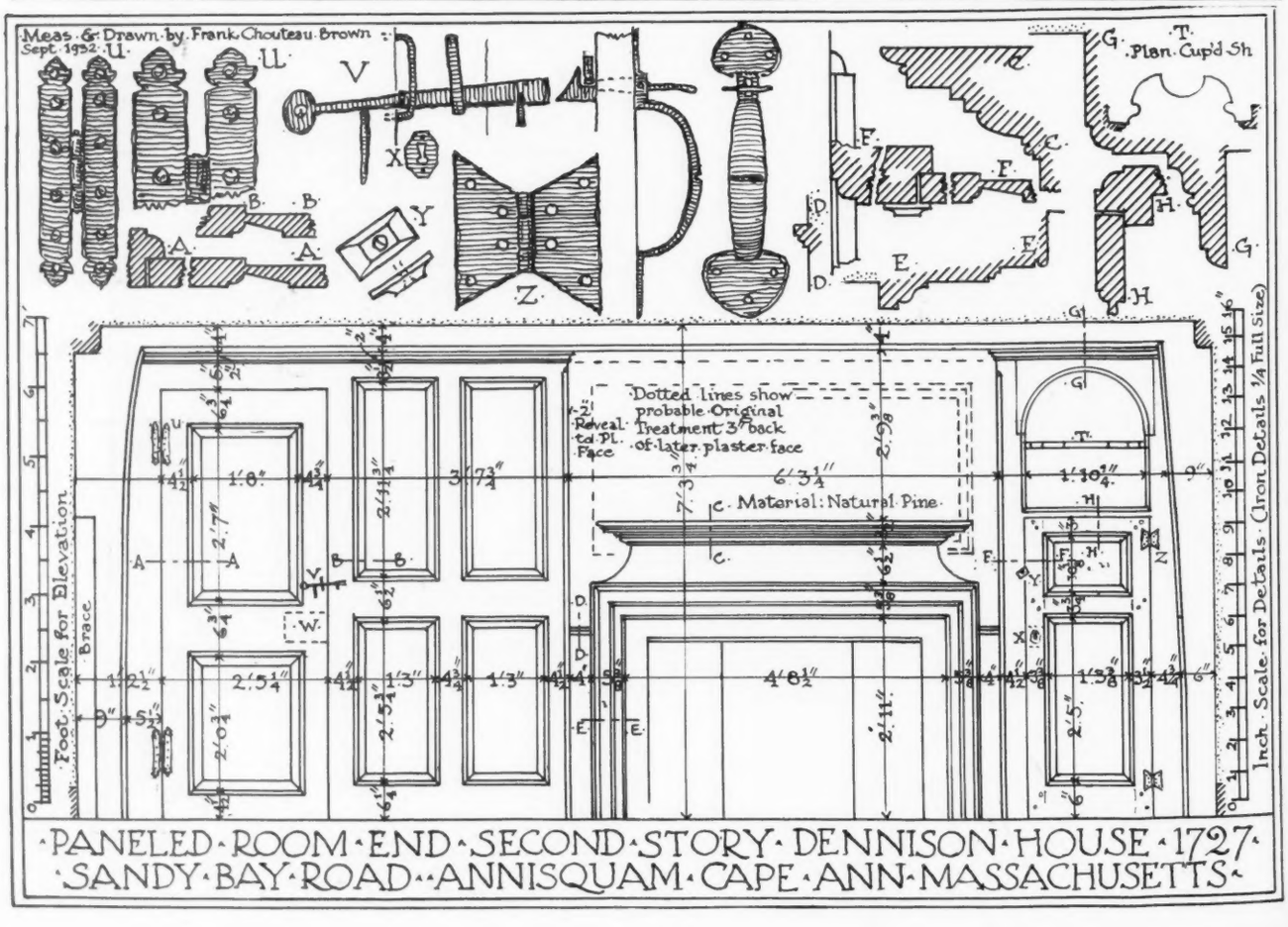
THE DENNISON HOUSE—1727—SANDY BAY ROAD, ANNISQUAM, MASSACHUSETTS

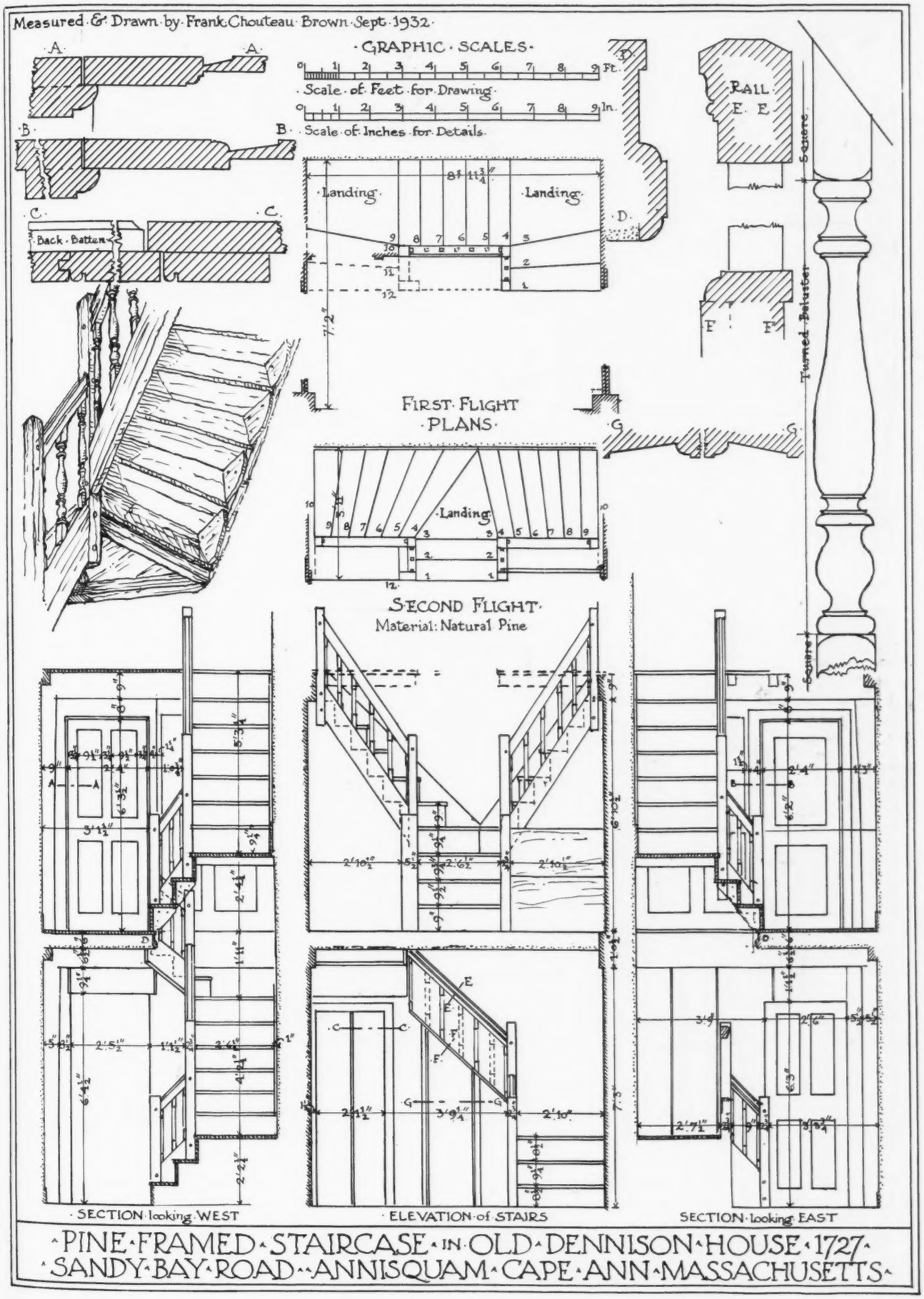
[8]



THE DENNISON HOUSE, PANELED ROOM END, SECOND STORY—1727—ANNISQUAM, MASSACHUSETTS

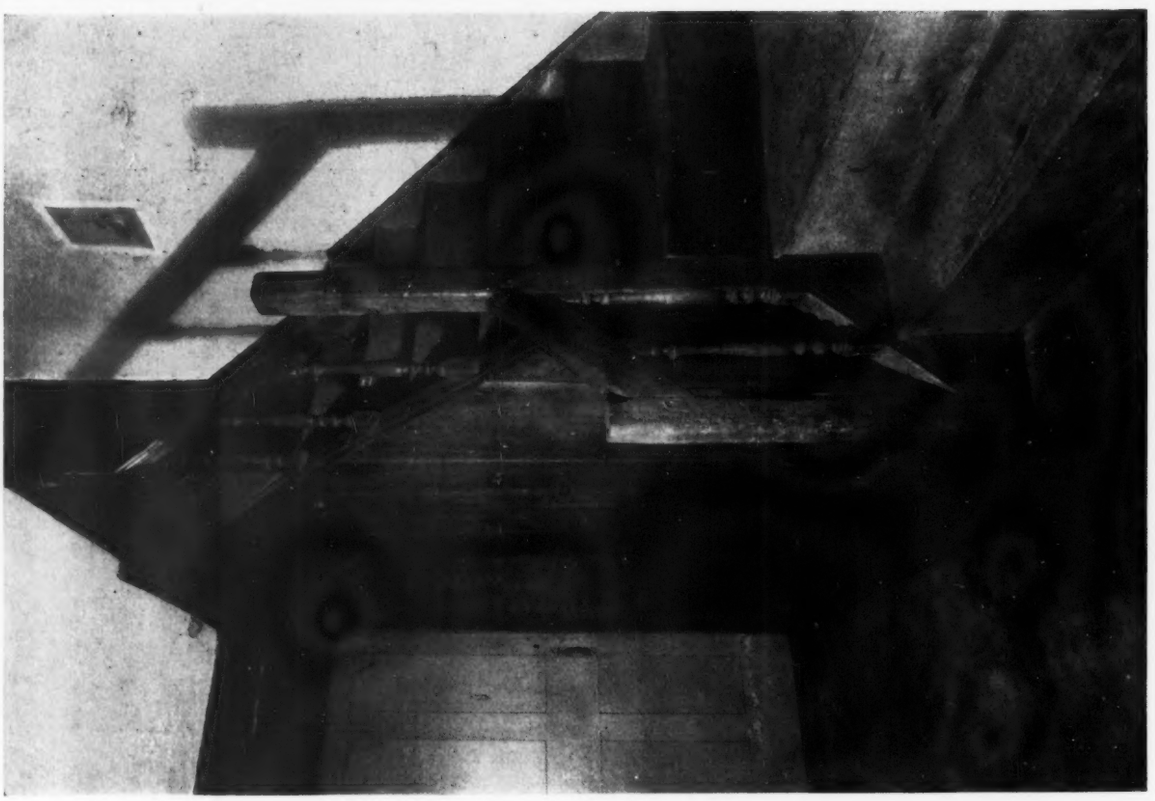

Meas. & Drawn by Frank Chouteau Brown
Oct 1932
J LATCH (Not Original)
Door
Old Door missing.
Modern Shelf
Cement Facing
Outline Present Fire Opening Not Original
Old Door but not Original
Foot Scale for Elevation
Inch Scale for Details
PANELED ROOM END SECOND STORY DENNISON HOUSE 1727
SANDY BAY ROAD ANNISQUAM CAPE ANN MASSACHUSETTS


Meas. & Drawn by Frank Chouteau Brown
Sept. 1932
Plan Cup'd Sh
Dotted lines show probable Original Treatment 3" back of later plaster face
Reveal
Col. Pl. Face
Material: Natural Pine
Brace
Foot Scale for Elevation
Inch Scale for Details (Iron Details 1/4 Full Size)
PANELED ROOM END SECOND STORY DENNISON HOUSE 1727
SANDY BAY ROAD ANNISQUAM CAPE ANN MASSACHUSETTS



PINE FRAMED STAIRCASE IN OLD DENNISON HOUSE 1727
SANDY BAY ROAD ANNISQUAM CAPE ANN MASSACHUSETTS

Second Flight



First Flight

THE DENNISON HOUSE—1727—FRAMED STAIRCASE, ANNISQUAM, MASSACHUSETTS

[12]

COTTAGE AT HEAD OF COVE—ABOUT 1700—ANNISQUAM, MASSACHUSETTS

THE DENNISON HOUSE—1727—FRAMED STAIRCASE, ANNISQUAM, MASSACHUSETTS

HOUSE AT CORNER OF ARLINGTON STREET, ANNISQUAM, MASSACHUSETTS

THE ROBINSON HOMESTEAD—1710-15—LANESVILLE, MASSACHUSETTS

[14]

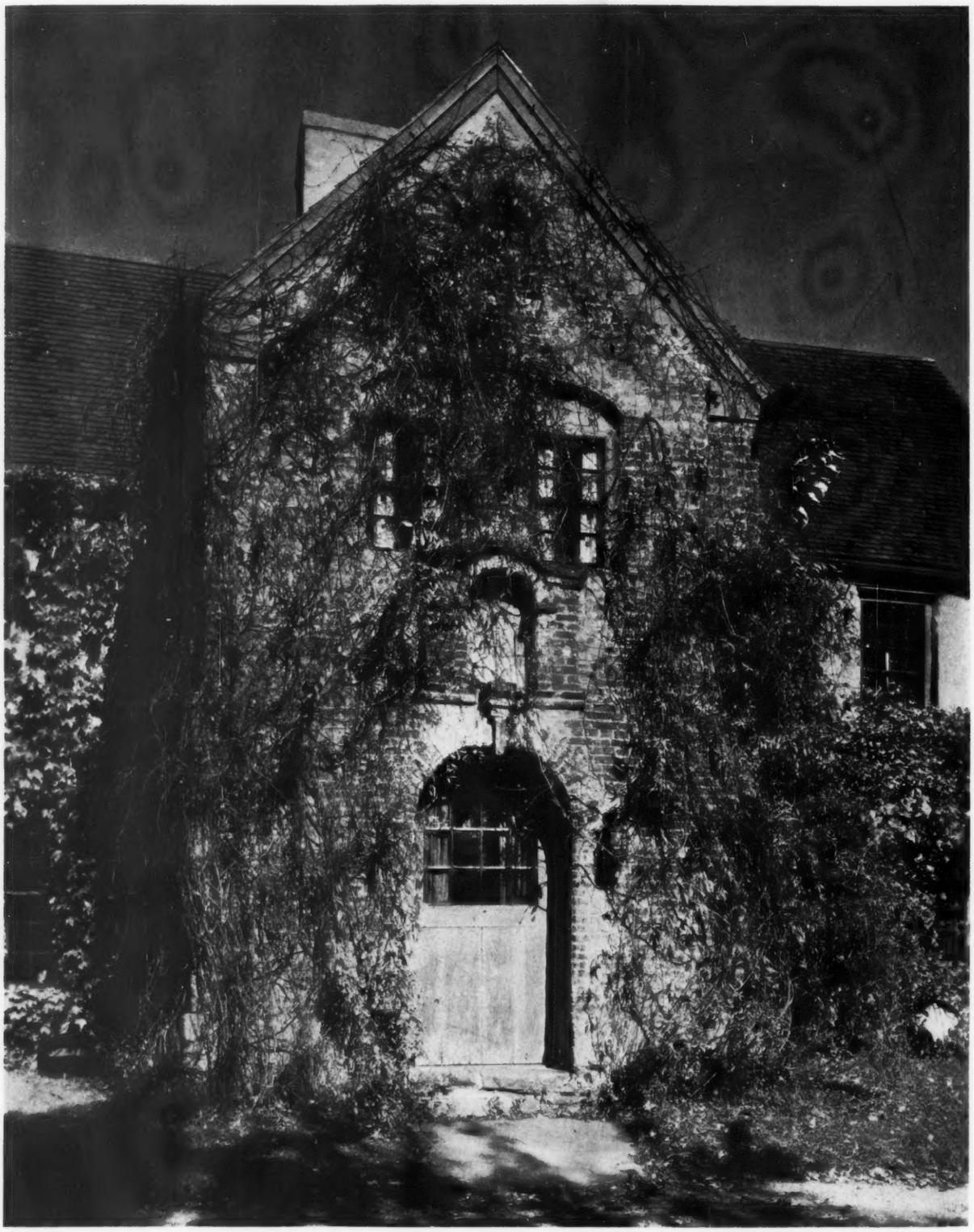
its predecessor was planted there in 1728!—surrounded with a pleasant group of little cottages and one more pretentious house of about 1800 (of all of which more will be heard anon), while nearly across the main roadway, leading up into the interior of the Cape, is the old "Sandy Bay Road," now Revere St., leading up to the old quarries and one end of "Dog Town Common" (and that, too, is another story!).

In a pleasant valley among the woods, at what appears to be the very end of the road, lies the old Dennison House, dating from 1727, though following precisely a much earlier style. Although but little known, the place has very recently come into the possession of Mr. Earl Sanborn, who is transferring his Glass Studio to a new structure built in back of the old dwelling, where windows for the new Washington Cathedral are now taking shape.

As yet no attempt has been made to reconstruct or restore the original aspect of the house, or its interiors. Outside, its age is still disguised under a comparatively modern coating of shingles; and every here or there in the interior still appear evidences of the individuality of some previous owner or tenant. Nevertheless, the views taken show a more than usually interesting staircase, carrying out in natural pine almost exactly the forms of its oak predecessors of fifty years before; the balusters alone, while still of even the earliest outlines, marking the difference. The details of this stairway, as well as its open support underneath, may be studied also in a measured drawing; another sheet shows some of the panelled ends remaining in the rooms. One of these, showing the natural pine, in a bedroom, has also been photographed; with a later, but still finely appealing mantel; and a charming original cupboard. Other panelling has been painted over, and some of the fireplaces filled up, or reduced in size; while the old "Hall" contains an example of a mantelshelf that, if not "an original" in date, may have been added soon after, from its simple appropriateness and feeling for relation to the room and its panelling.

Despite its later date, this house is among the earliest in appearance of the few full two-story dwellings on the Cape; and has the earliest type of staircase.

THE WHITE-ELLERY HOUSE—1703-10—GLOUCESTER, MASSACHUSETTS



Entrance Detail

THE SPENCER-PIERCE-LITTLE HOUSE—1650—NEWBURY, MASSACHUSETTS

[16]

Comparative Details—Group 5 Fireplaces

Prepared for Pencil Points by Courtesy of the New York Architects' Emergency Unemployment Committee

Drawings by Philip Birnbaum from Data Supplied by the Architects

THE ARCHITECTS
whose details are shown on this and the succeeding pages are as follows:

ROGER H. BULLARD
HENRY OTIS CHAPMAN
FRANK J. FORSTER
GODWIN, THOMPSON, AND PATTERSON
JULIUS GREGORY
WALTER BRADNEE KIRBY

DETAILS PREVIOUSLY PUBLISHED

Dormers . . October, 1932
Fences and Gates November, 1932
Radiator Enclosures December, 1932
Second Story Overhangs January, 1933

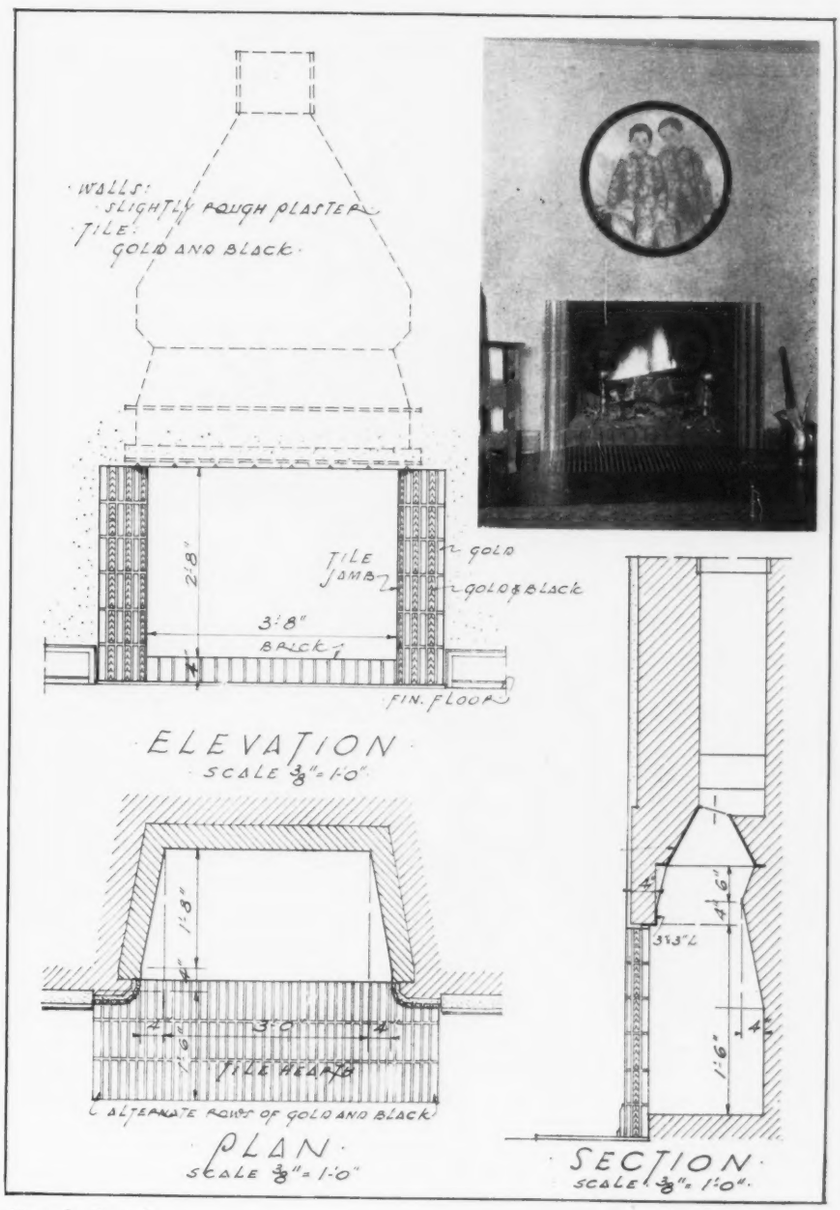


Photo by Gottscho

RESIDENCE OF MRS. JULIUS GREGORY, SCARSDALE, NEW YORK
Julius Gregory, Architect

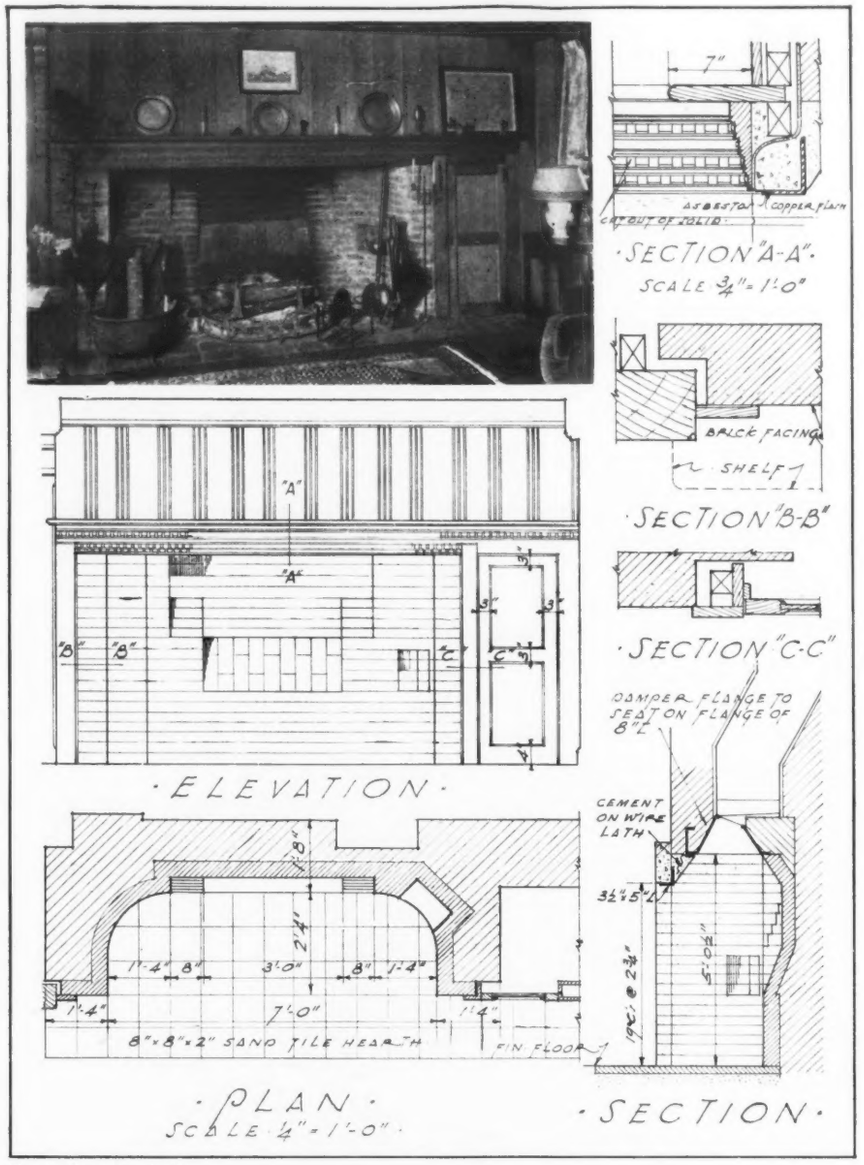


Photo by Van Anda

RESIDENCE OF ROGER H. BULLARD, NORTH HILLS, MANHASSET, LONG ISLAND, N. Y.

Roger H. Bullard, Architect

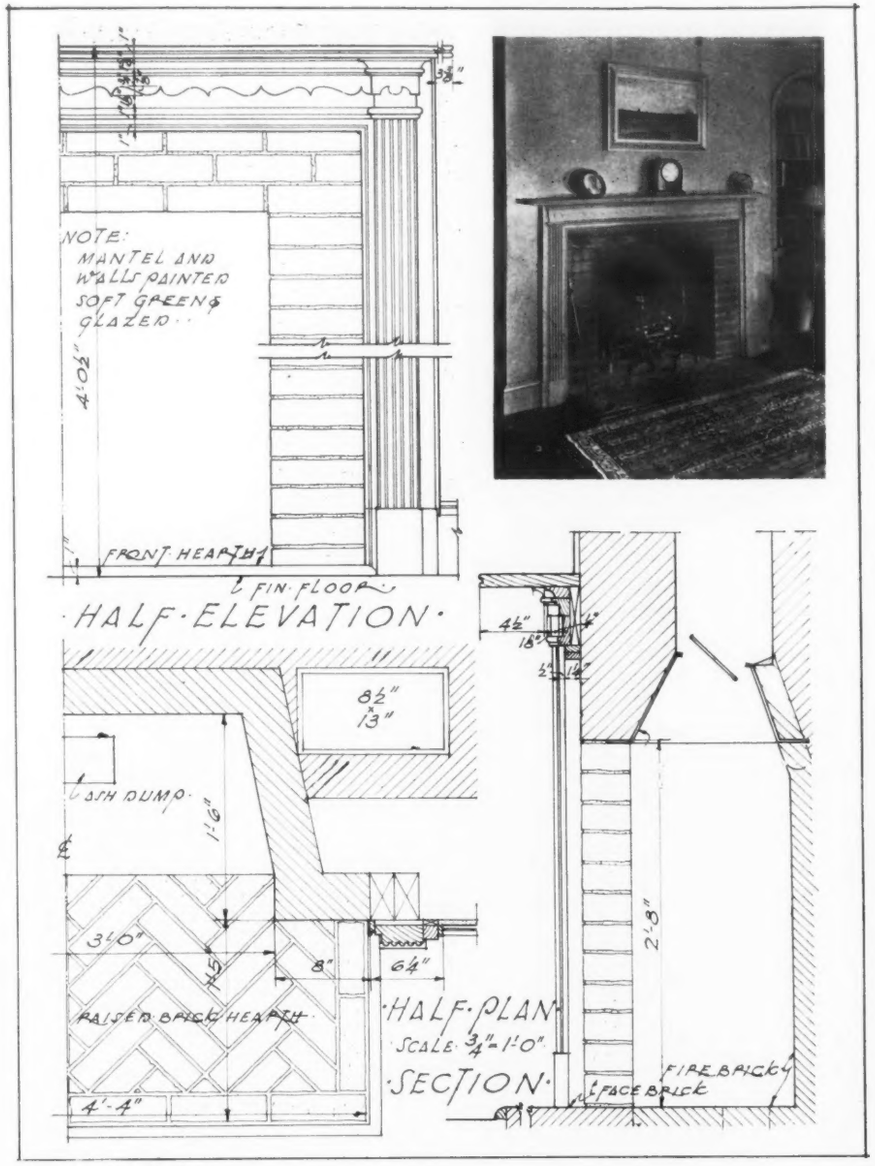


Photo by Van Anda

RESIDENCE OF A. BARTO, ESQ., BRONXVILLE, NEW YORK

Godwin, Thompson, and Patterson, Architects

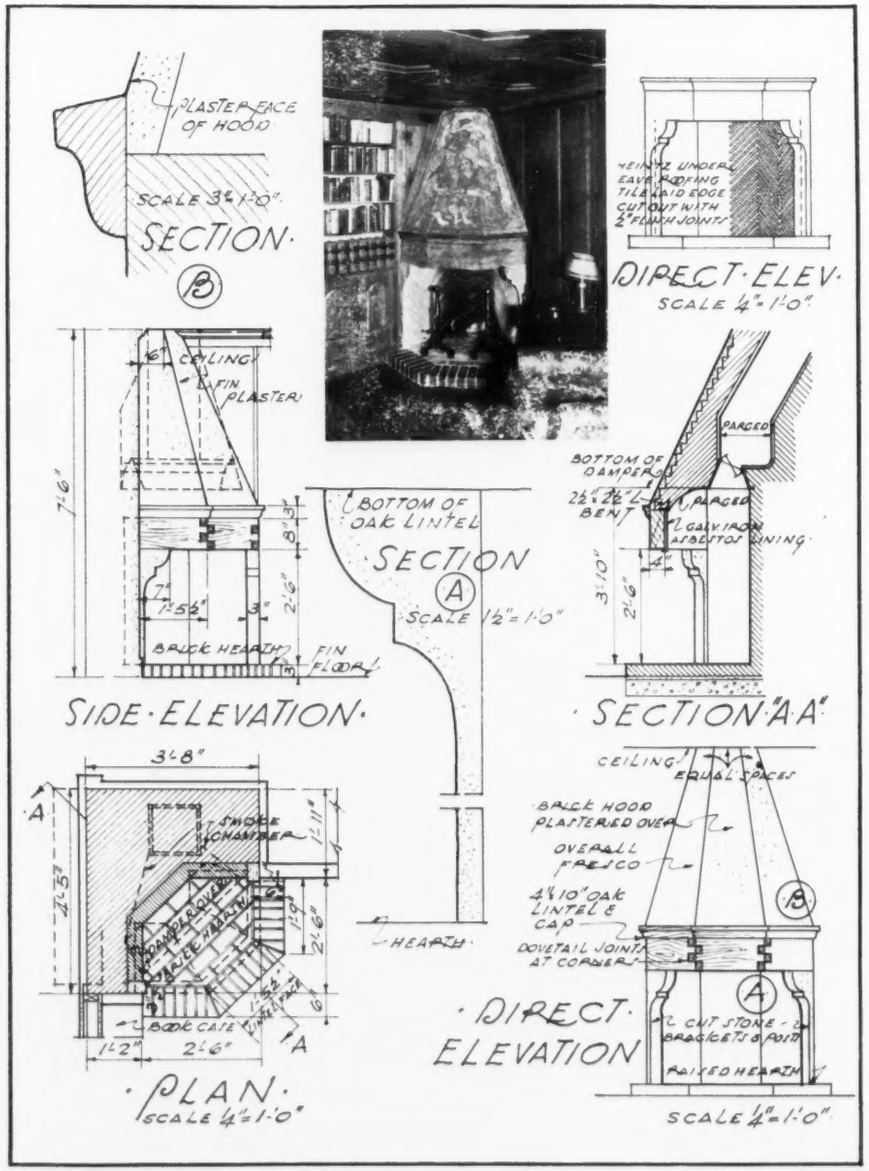


Photo by Gillies

RESIDENCE OF CHARLES WESLEY DUNN, ESQ., NORWALK, CONNECTICUT

Frank J. Forster, Architect

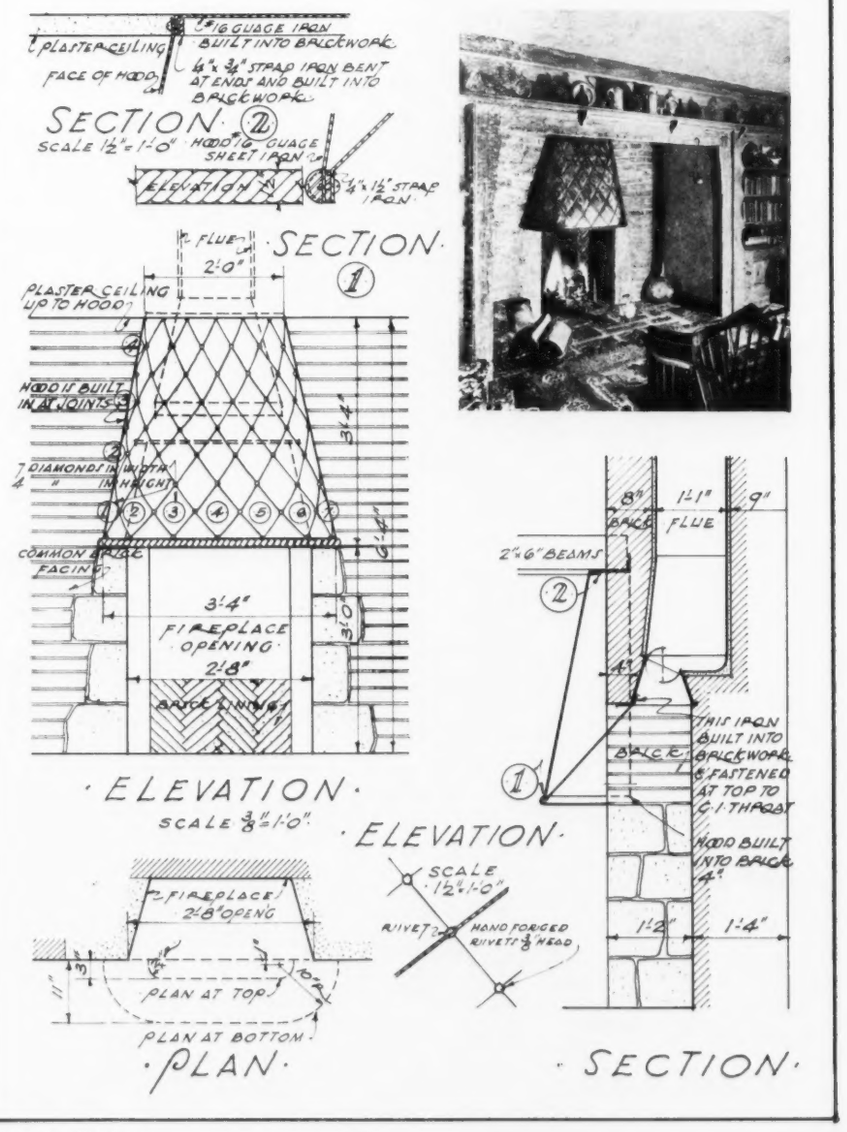
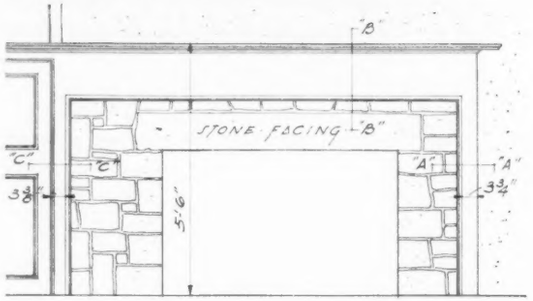


Photo by Glasgow

RESIDENCE OF ALBERT M. SWANK, ESQ., JOHNSTOWN, PENNSYLVANIA

Frank J. Forster, Architect



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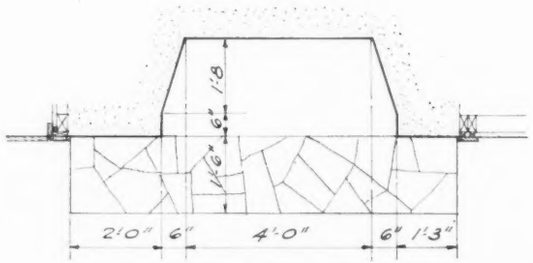
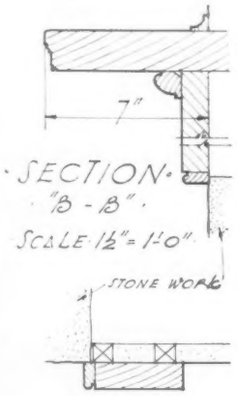


· PLAN ·



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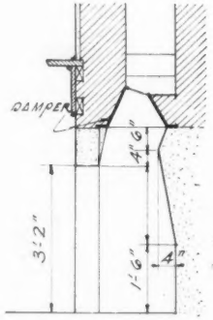
"C - C"



· SECTION ·
SCALE ¼" = 1'-0"

Photo by Gottscho

RESIDENCE FOR F. N. BELDING, ESQ., EASTERN POINT, GROTON, CONNECTICUT

Julius Gregory, Architect

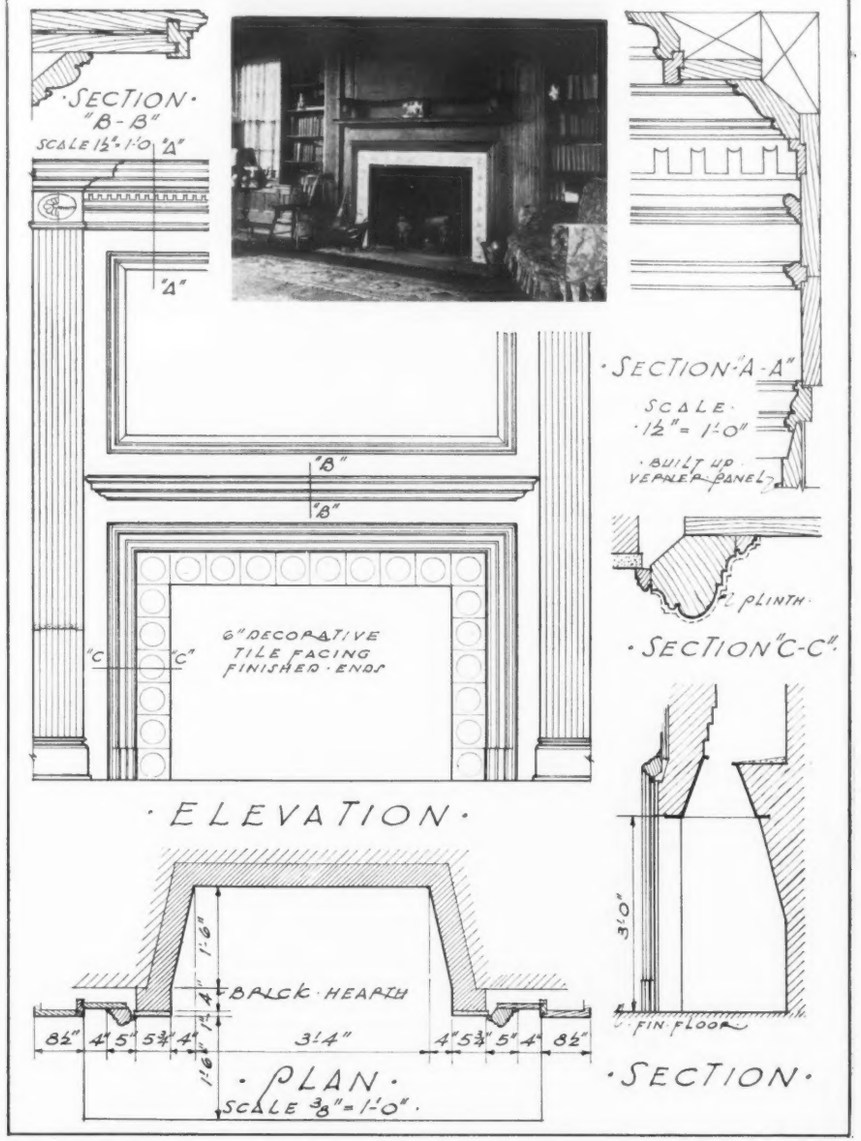
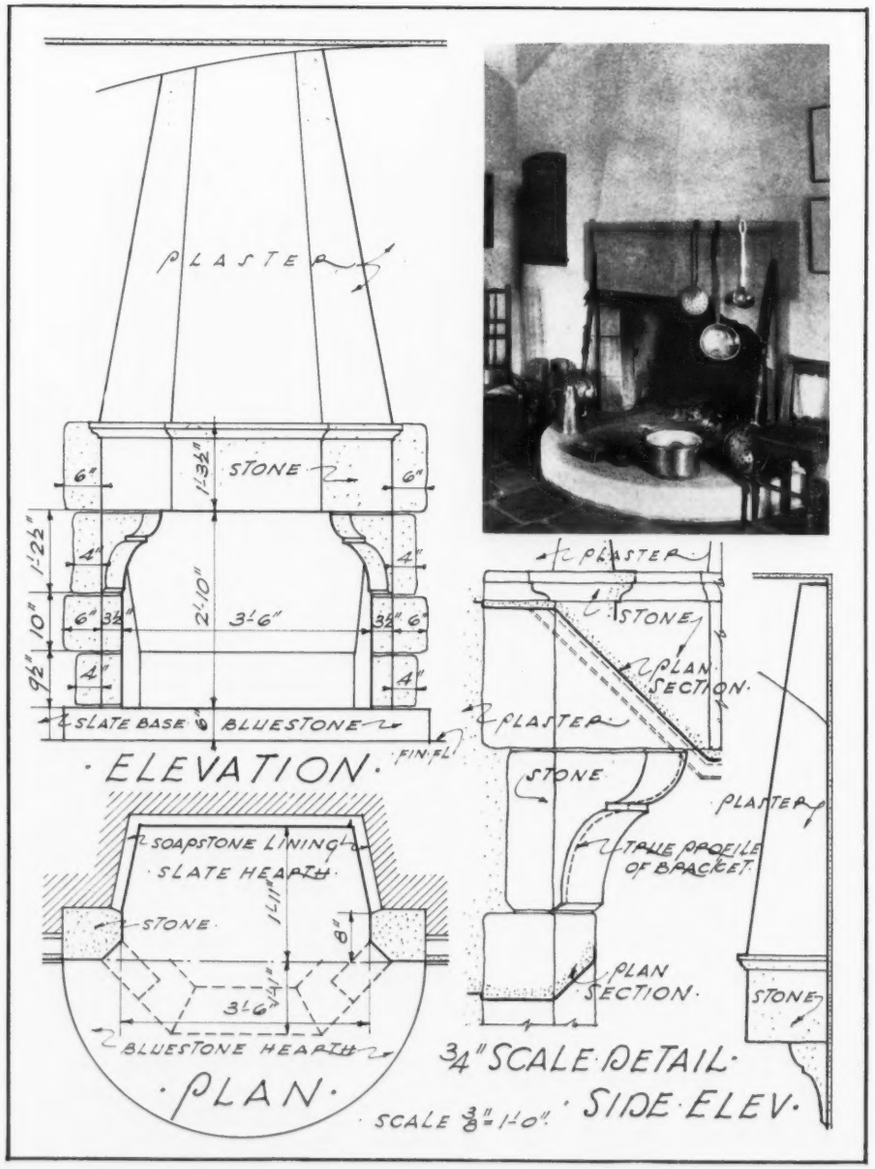


Photo by Garrison

RESIDENCE OF MARIE O. GREGORY, HEWLETT, LONG ISLAND, NEW YORK

Henry Otis Chapman, Architect



RESIDENCE OF HENRY A. RUDKIN, ESQ., FAIRFIELD, CONNECTICUT

Walter Bradnee Kirby, Architect

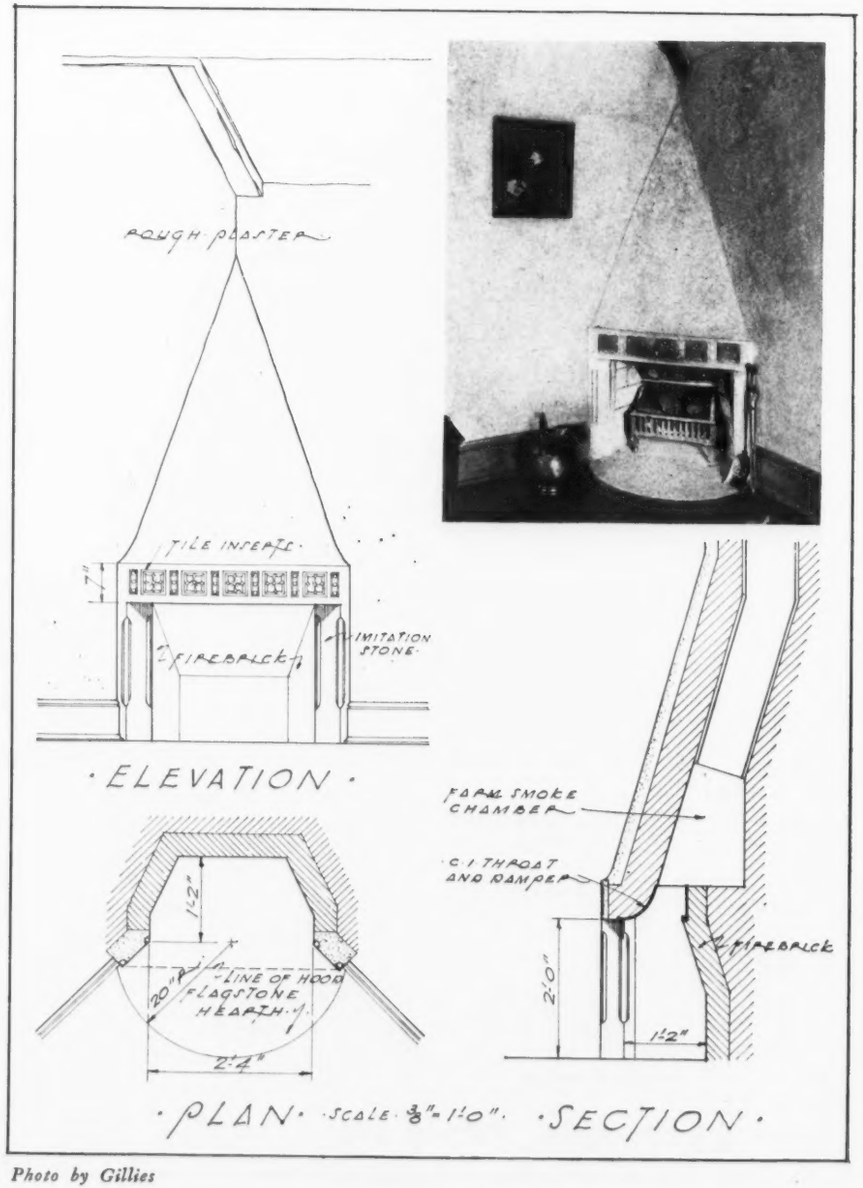
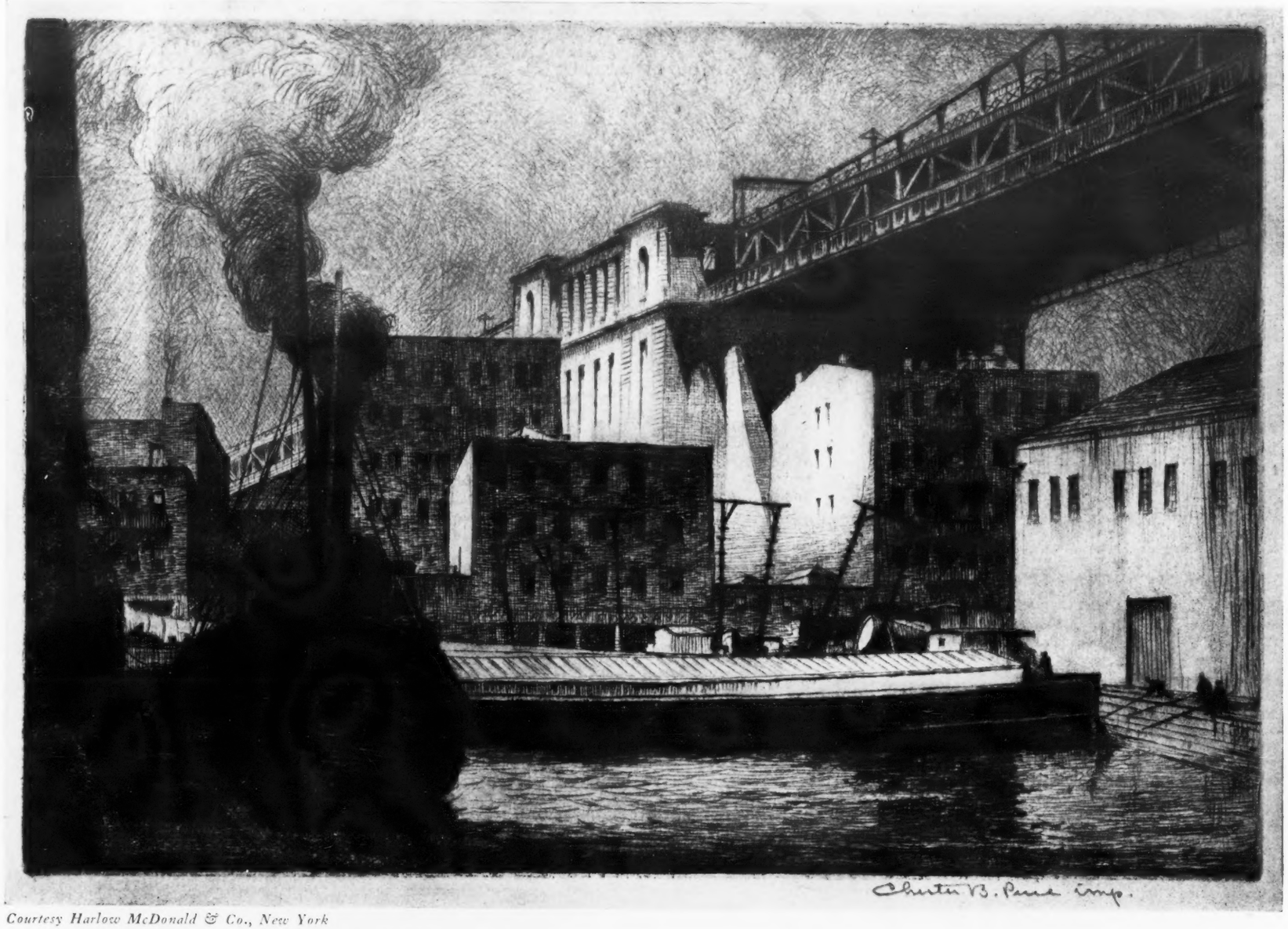


Photo by Gillies

RESIDENCE OF R. M. HAIG, ESQ., FIELDSTON, NEW YORK

Julius Gregory, Architect



Courtesy Harlow McDonald & Co., New York

MANHATTAN BRIDGE—FROM A DRYPOINT BY CHESTER B. PRICE

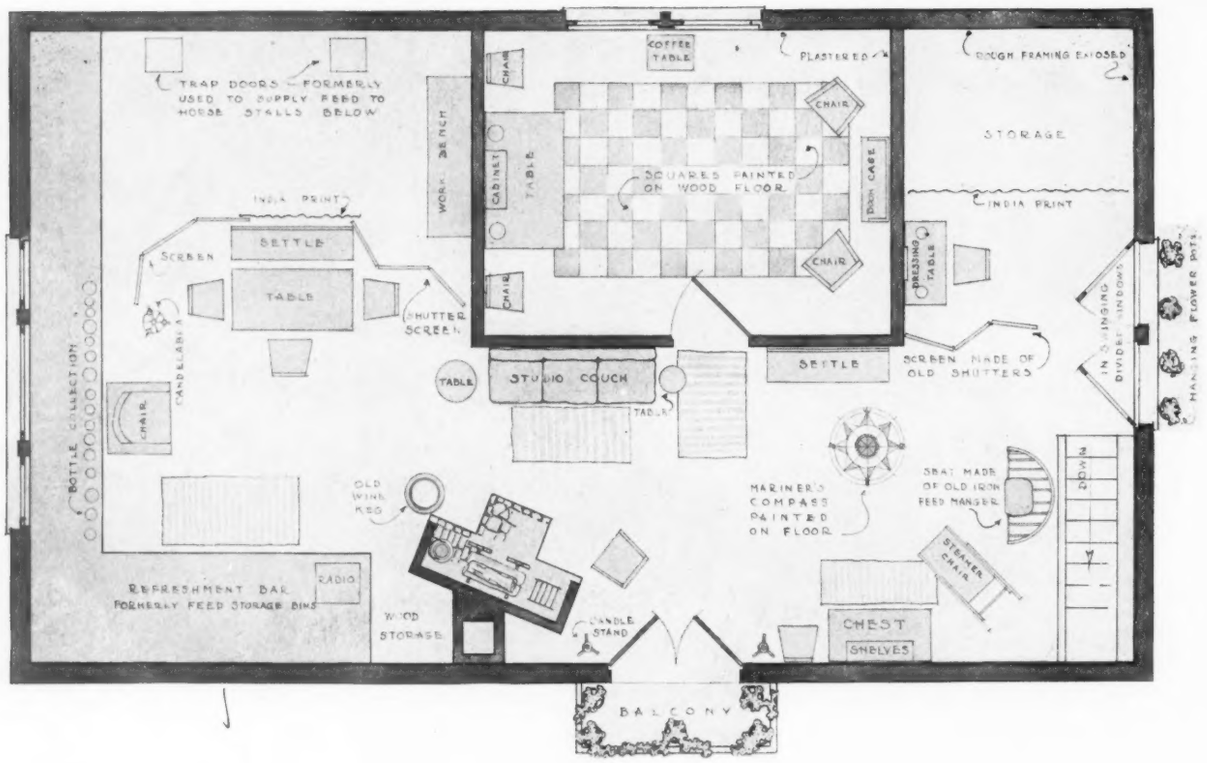
This print, which is reproduced at the size of the original, was selected as one of the "Fine Prints of the Year, 1932."

Courtesy A. C. and H. W. Dickins, New York

PLACE ST. GERMAIN DES PRÉS, PARIS

FROM A DRYPOINT BY LOUIS C. ROSENBERG

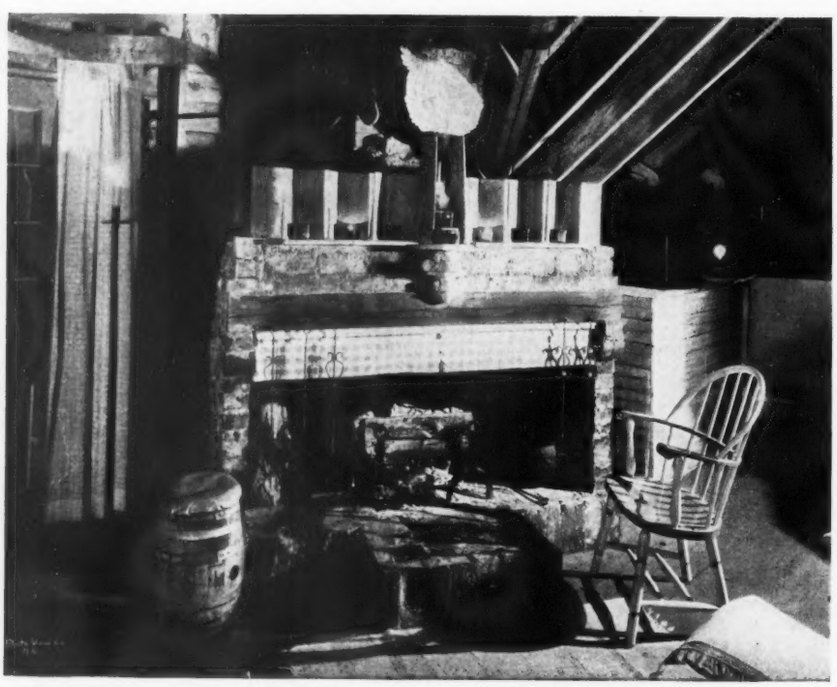
This plate was awarded the Mrs. Henry F. Noyes Prize for the best print in the recent Seventeenth Annual Exhibition of the Society of American Etchers.



A Draftsman's Retreat

By William Vandel

One fine afternoon forty years ago, a contractor who builded well and wisely completed a house and stable on a tract in the outskirts of a small but growing young city. He probably did not bother to speculate on the future of his completed job, during the next decade or so. It would have surprised him to know that the city would grow miles beyond the place, that apartments housing hundreds of families would replace the neighboring mansions, and that a young architectural draftsman would want a workshop and studio to use in his spare time and would cast a speculative eye toward the old stable.



THE STUDIO READY FOR TEA OR ANYTHING

Upon inspection the stable showed possibilities. Since it had been entirely unoccupied and was in a rather dilapidated condition, the owner was glad to let the entire second floor, which had been coachman's quarters and storage for feed, for the small sum of three dollars per month.

The draftsman did all the repair work himself. This included: replacing broken window lights, hanging one pair of double-hung windows so that they would become divided in-swinging casements, building a balcony in front of the double doors on the alley through which the hay for the horses had formerly been hauled up by means of a large swinging iron crane, building the fireplace, painting the floors, and completely redecorating the coachman's room.

This coachman's room, the only finished and plastered portion of the stable, had been built in the center of the second floor against one of the outside walls as shown on the accompanying plan. This unusual plan made the place more interesting because of the resulting odd-shaped outer space. The plaster walls were painted a light cream with a dark grey wainscot, black stars in constellations were pasted on the ceiling, the woodwork was painted brilliant flat blue with mouldings in vermilion, and the floor was laid off in squares, the alternating ones being painted white. Unbleached muslin curtains, with a large appliqué design depicting an artist and his model, were hung over the two windows. The furniture placed in the room consisted of a table (convertible to a drafting table on occasion), a bookcase and material cabinet, a coffee table made from an old cast iron stove, and several chairs.

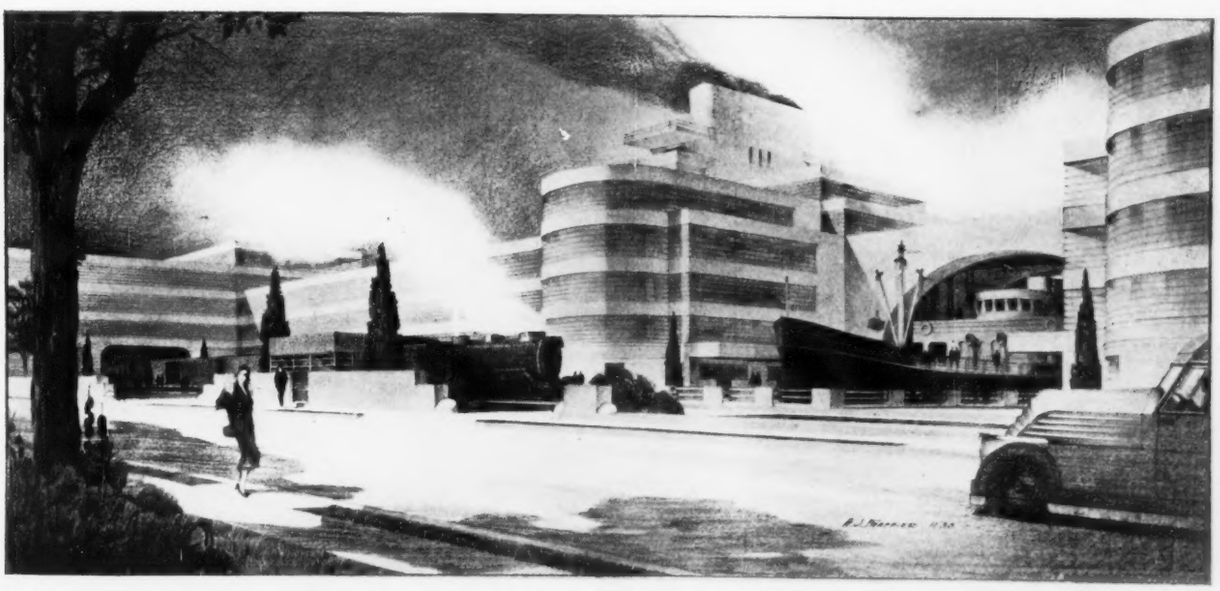
An existing chimney determined the location of the fireplace. A hole was knocked in the chimney to connect the fireplace, which was built one brick thick and raised the height of one brick from the floor. The floor joists were sufficiently strong to support the weight. The unusual angle of the fireplace resulted from the desire to avoid cramped space in front which would have come about if it had been built parallel to the outside wall. Half-round insert tile formed a frieze above the mantelshelf. Into the niches formed were put small whale oil candles burning in colored containers. Wrought iron toasting forks, copies of old Spanish ones, were hung from the wooden supporting beam. An old wine-keg was placed at one side of the fireplace for a seat and an old kettle, used formerly by slaves during civil war, was set inside to be used for cooking when occasion demanded. A valance of red checked gingham was hung below the beam to improve the draft and provide a spot of bright color. Though very near the burning fire it does not burn because of the indraft of cool air.

The furniture in this portion of the studio was procured from various sources—gifts from friends, purchases from second-hand stores, and some from a storage locker of the owner. Most of the furniture was repainted and reupholstered by the draftsman. One very interesting seat was made from an old iron feed manger found in the horse stalls of the stable. Several decorative screens were made from old shutters and were painted a faded bottle green. Several India prints were used to screen off the low ceiling portion of the room where the rafters did not allow sufficient head room.

The tops of some old feed bins formed an ideal refreshment bar and buffet when food was to be served. A high ledge along the south wall, the result of an overhanging gable in the exterior architecture of the stable, made an ideal place for a bottle collection (empty).

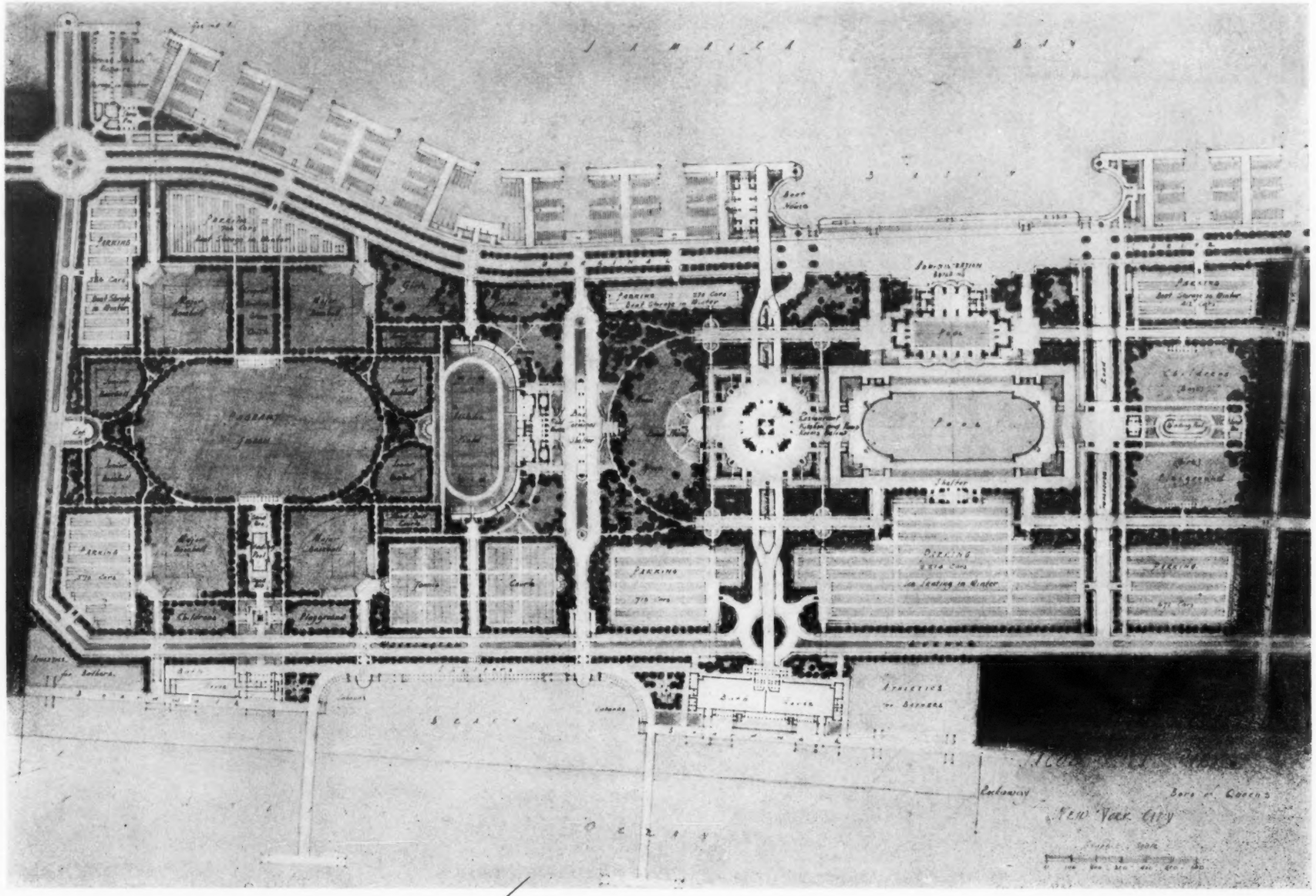
The lighting of the completed studio is mainly by candles. Several wrought iron candelabra and a wrought iron chandelier give general illumination and small wrought iron candlesticks, also holding candles, give needed light on tables and chests. Electric lights are used for drafting or modeling but, because of their unromantic aspect, are kept out of sight except when needed.

There are many such old stables in the older parts of our cities in which one so-minded might create a similar retreat. For anyone interested in making much out of little, in using his ingenuity to create effects, and in using his spare time in a constructive manner, such a similar project might be attempted. If the worst came to the worst, who knows but that such a place would offer an artistic though not modern haven until the financial storm had abated and architectural draftsmen again could afford houses or apartments.



FROM A RENDERING IN CRAYON ON TRACING PAPER BY ARTHUR J. FRAPPIER

A sunlight factory building on the proposed reclaimed salt meadows and swamps along the Hackensack River, New Jersey, with all types of transportation correlated to assure the efficient functioning of industry as proposed by the Regional Plan Association, New York.


JAMAICA
Boat House
Parking
Boat Storage in Winter
Pool
Parking
Boat Storage in Winter
Parking
Boat Storage in Winter
Parking
Boat Storage in Winter

HERE AND THERE AND THIS AND THAT

CONDUCTED BY E.L.C.

COLUMBIA SCHOLARSHIP AWARDED

James A. Mitchell, a graduate of the Carnegie Institute of Technology, has been awarded the $1,800 Graduate Fellowship of Columbia University School of Architecture.

The Fellowship is bestowed annually on the graduate student at Columbia who shows the most promise in architecture. It enables the recipient to pursue advanced studies in architecture and design at Columbia University for a year.

Mr. Mitchell is a candidate for the Master of Science degree in the Columbia School of Architecture. He entered Carnegie Institute in 1927 and received his bachelor's degree in architecture in 1932.

WANTED

Information leading to correspondence with individuals who have acted professionally as Building Investment Counselors is wanted by R. G. Denmead, 115 Woodland Avenue, Columbus, Ohio. The work would involve a complete analysis of costs, operating expenses, and income factors arising in the promotion of building and real estate projects.

LE BRUN TRAVELING SCHOLARSHIP

Design of a recreation center and playground on a river front is the competition problem for the Le Brun Traveling Scholarship of $1,400, it is announced by the New York Chapter of the American Institute of Architects. The award will be made on March 16th, and the winning drawings will be published in the April or May issue of PENCIL POINTS.

THE FIVE-YEAR PLAN FOR ARCHITECTS

By J. B. Hills

My clients have vanished,
My practice is shot.
My flivver is mortgaged,
And all that I've got.
But it could be lots worse,
Tho I'm deep in the red,
I paid for my "PENCIL POINTS"
Five years ahead.

Like a dumbbell, I skated
On ice that was thin;
And the losses were huge
That I took on the chin.
But the old bean was running
Like clockwork instead,
When I signed up for "PENCIL POINTS"
Five years ahead.

When depression is over,
And business comes back,
And again we spend freely
For things that we lack;
I'll swear by the foresight
That luckily led
Me to sign up for "PENCIL POINTS"
Five years ahead.

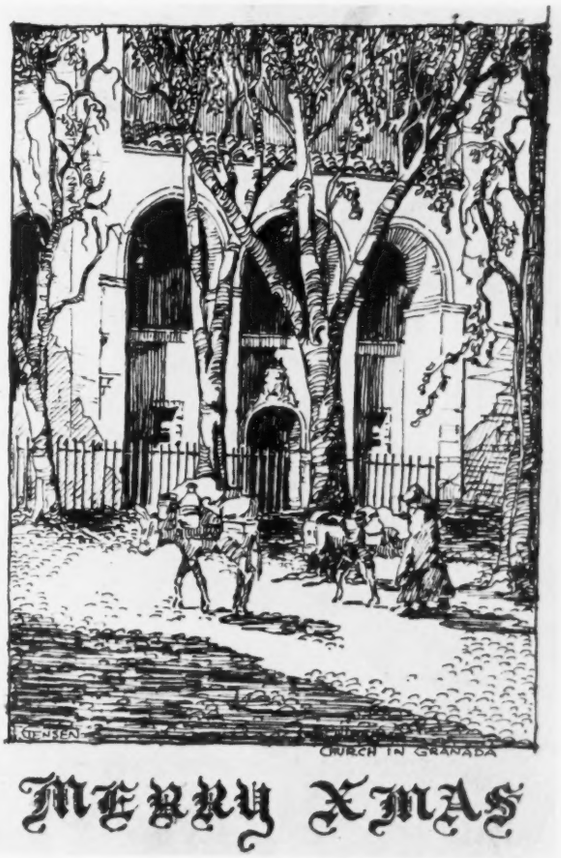
COMPETITION FOR A TYPOGRAPHICAL ANNOUNCEMENT

The Museum of Modern Art, 11 West 53rd Street, New York, announces a competition in typography. The competition, open to all, is for a design, exclusively in type, of an announcement for an exhibition. The winning designs will be exhibited in the Museum's galleries, and $100 in prizes will be awarded as well as honorable mentions. The full program of the competition, which ends on March 15th, may be obtained by applying to Philip Johnson, Chairman of the Department of Architecture, Museum of Modern Art, 11 West 53rd Street, New York.

COMPETITION FOR ROTCH TRAVELING SCHOLARSHIP

The preliminary examinations for the Rotch Traveling Scholarship will be held April 3rd, the *en loge* sketches April 10th and 12th, and the finals April 15th. Applicants are expected to register on or before April 1.

Candidates must be citizens of the United States and



WINNING DESIGN IN PENCIL POINTS CHRISTMAS CARD COMPETITION

BY CARL JENSEN, OF LOS ANGELES, CALIFORNIA

A pen-and-ink drawing, photographed and printed on a sepia mat surface paper. The size of the original card was approximately 4" x 6".

be under thirty years of age on May first of the year when they present themselves, and must have had experience in professional work during two years in Massachusetts in the employ of an architect resident and practicing in Massachusetts; or, one year in an office as above and two years in architectural school approved by the Scholarship Committee.

For registration and further information apply to C. H. Blackall, Secretary, 31 West Street, Boston.

ARCHITECTURAL LEAGUE EXHIBITION

The forty-eighth annual exhibition of the Architectural League of New York will be held from February 18th to March 11th, in the Fine Arts Building, 215 West 57th Street. Arthur Loomis Harmon is chairman of the exhibition committee. Despite the depression and, in fact, because of it, the members of the League are uniting to make a selective and representative showing of architecture and its kindred arts, and the effort is meeting with a splendid response.

Any profits resulting from the show will go to the Architects' Emergency Committee unemployment fund. Several concerts by well-known musicians will be held in the galleries of the exhibition to aid the fund.

Exhibits will include works of contemporary architecture, sculpture, landscape architecture, decorative painting, and works of the native arts and crafts produced within the last year.

KATE NEAL KINLEY MEMORIAL FELLOWSHIP

The Kate Neal Kinley Memorial Fellowship of $1,000 was established in 1931 by Dr. David Kinley, President emeritus of the University of Illinois, to promote advanced study in the Fine Arts and as a memorial to the late Mrs. Kinley. The second consideration of candidates for the Fellowship has been announced by the committee in charge by authority of the Board of Trustees of the University of Illinois.

The Fellowship is open to graduates of the College of Fine and Applied Arts of the University of Illinois and to graduates of similar institutions of equal educational standing whose principal or major studies have been in all branches of Music or Art or design and history of Architecture.

The Fellowship will be awarded upon the basis of unusual promise in the Fine Arts as attested by: A. High attainment in the applicant's major field of study as witnessed by academic marks; B. High attainment in related cultural fields as witnessed by academic marks; C. Excellence of personality, seriousness of purpose, and good moral character.

Application addressed to Dean Rexford Newcomb, College of Fine and Applied Arts, University of Illinois, Urbana, Illinois, should reach the Committee not later than April 1, 1933.

INDIANAPOLIS ARCHITECTURAL CLUB

The annual banquet and election of officers of the Indianapolis Architectural Club was held recently in the Club's headquarters. The results of the election were as follows: President, Anton Scherrer; Vice President, Ervin Snyder; Recording Secretary, Fred Scott; Treasurer, Norval Stelhorn; Corresponding Secretary, Charles Earhart.

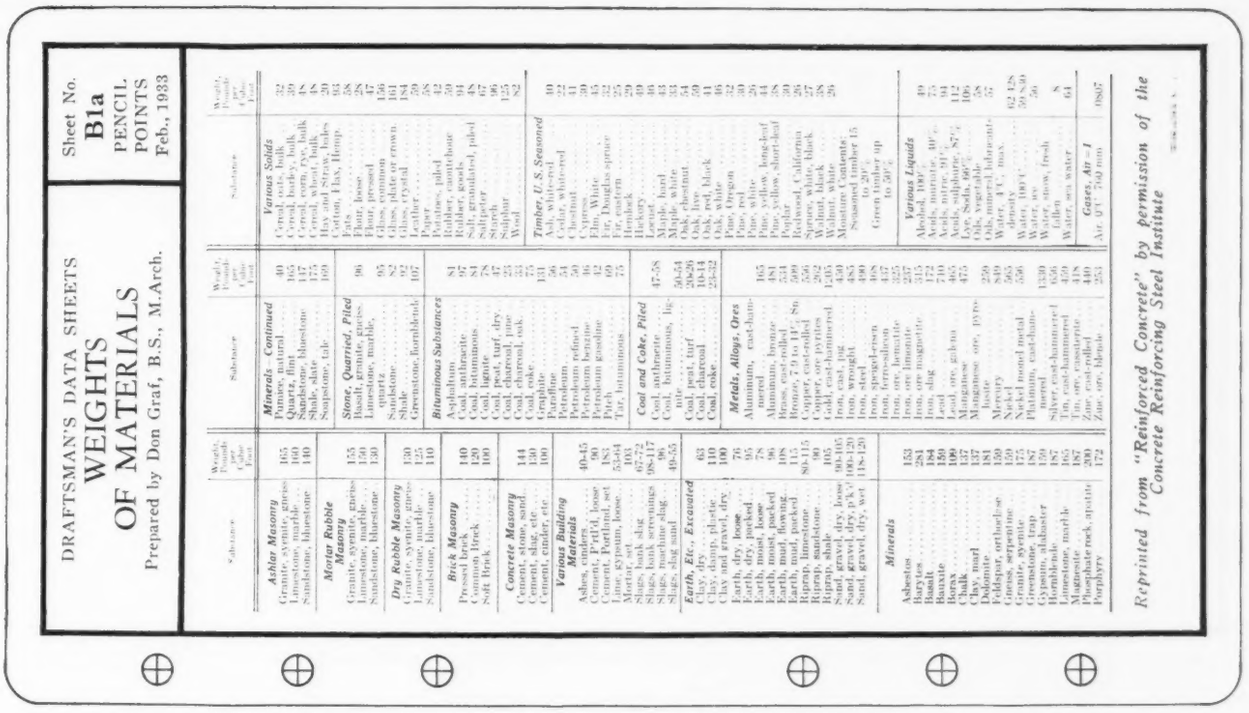
THE DRAFTSMAN'S NOTEBOOK

Every month four *Data Sheets* will appear in PENCIL POINTS. A valuable finger-tip reference book for use at the drafting table is formed by preserving them in a standard six-ring binder. At six-month intervals those sheets which have appeared in the previous half year are reprinted as sets of twenty-four sheets. Two such sets, on heavy bond paper all punched and ready for your notebook, are now available at seventy-five cents each from PENCIL POINTS, 330 West 42nd Street, New York.

Interesting letters and enclosures have been received this month from Robert A. Ware, J. W. Germond, Edgar Dahm, Charles A. Rais, Rathbone DeBuys, W. S. Maus.

Next month we hope to start a number of sheets on the sizes of furniture. Many pieces of furniture have been measured in the showrooms of one of the largest furniture

MEMBERS OF THE INDIANAPOLIS ARCHITECTURAL CLUB AT THEIR ANNUAL BANQUET, WHEN THE ELECTION OF OFFICERS WAS HELD


DRAFTSMAN'S DATA SHEETS
WEIGHTS OF MATERIALS
Prepared by Don Graf, B.S., M.Arch.

Sheet No. B1a
PENCIL POINTS
Feb., 1933

Substance	Weight, Pounds per Cubic Foot
Ashlar Masonry	
Granite, syenite, gneiss	165
Limestone, marble	160
Sandstone, bluestone	140
Mortar Rubble Masonry	
Granite, syenite, gneiss	155
Limestone, marble	150
Sandstone, bluestone	130
Dry Rubble Masonry	
Granite, syenite, gneiss	130
Limestone, marble	125
Sandstone, bluestone	110
Brick Masonry	
Pressed Brick	140
Common Brick	120
Soft Brick	100
Concrete Masonry	
Cement, stone, sand	144
Cement, cinder, etc.	130
Cement, slag, etc.	100
Various Building Materials	
Ashes, cinders	40-45
Cement, Portld, loose	90
Cement, Portland, set	183
Lime, gypsum, loose	53-64
Mortar, set	103
Slags, bank slag	67-72
Slags, bank screenings	98-117
Slags, machine slag	96
Slags, slag sand	49-55
Earth, Etc., Excavated	
Clay, dry, plastic	63
Earth, dry, loose	110
Earth, dry, packed	100
Earth, moist, loose	76
Earth, moist, packed	95
Earth, mud, flowing	78
Earth, mud, packed	96
Earth, mud, puddled	108
Earth, mud, packed	115
Riprap, limestone	80-115
Riprap, sandstone	90
Riprap, shale	105
Sand, gravel, dry, loose	90-105
Sand, gravel, dry, p'k'd	100-120
Sand, gravel, dry, wet	118-120
Minerals	
Asbestos	153
Barytes	284
Basalt	184
Bauxite	150
Borax	109
Chalk	137
Clay, marl	137
Dolomite	181
Feldspar, orthoclase	159
Feldspar, plagioclase	169
Granite, syenite	175
Gypsum, alabaster	159
Hornblende	187
Limestone, marble	165
Magnesite	187
Phosphate rock, apatite	200
Porphyry	172

Substance	Weight, Pounds per Cubic Foot
Minerals - *Continued*	
Pumice, natural	40
Quartz, flint	165
Sandstone, bluestone	137
Shale, slate	175
Soapstone, talc	169
Stone, Quarried, Piled	
Basalt, granite, gneiss	96
Limestone, marble, quartz	95
Sandstone	82
Shale	92
Greenstone, hornblende	107
Bituminous Substances	
Asphaltum	81
Coal, anthracite	97
Coal, bituminous	84
Coal, lignite	78
Coal, peat, turf, dry	47
Coal, charcoal, pine	25
Coal, charcoal, oak	37
Coal, coke	75
Graphite	131
Paraffin	56
Petroleum	54
Petroleum, refined	50
Petroleum benzine	46
Petroleum gasoline	42
Pitch	69
Tar, bituminous	75
Coal and Coke, Piled	
Coal, anthracite	47-58
Coal, bituminous, lignite	50-54
Coal, peat, turf	20-26
Coal, charcoal	11-12
Coal, coke	23-32
Metals, Alloys, Ores	
Aluminum, cast-hammered	165
Aluminum, bronze	181
Brass, cast-rolled	534
Bronze, 7.9 to 14% Sn	509
Copper, cast-rolled	556
Copper, ore pyrites	262
Gold, cast-hammered	1205
Gold, coin	1093
Iron, wrought	485
Iron, steel	490
Iron, spiegel-eisen	468
Iron, ferro-silicon	437
Iron, ferro-manganese	455
Iron, ore limonite	237
Iron, ore magnetite	315
Iron, slag	172
Lead, ore, galena	410
Lead, sheet	712
Manganese	475
Mercury	259
Nickel	549
Nickel, metal	556
Platinum, cast-hammered	1330
Silver, cast-hammered	656
Tin, cast-hammered	459
Tin, ore, stream	418
Zinc, cast-rolled	440
Zinc, ore, blende	253

Substance	Weight, Pounds per Cubic Foot
Various Solids	
Cement, Portland, bulk	92
Cereal, barley, bulk	39
Cereal, corn, rye, bulk	44
Cereal, wheat, bulk	48
Hay and straw, bales	20
Flax seed, Hay, Hemp, Jute	45
Flour, loose	28
Flour, pressed	47
Glass, common	156
Glass, plate or crown	161
Glass, crystal	184
Paper	59
Potatoes, piled	42
Rubber, caoutchouc	93
Rubber, goods	94
Saltpeter	67
Starch	96
Sugar	105
Wool	82
Timber, U.S. Seasoned	
Ash, white-red	40
Cedar, whitewood	22
Cedar, red	35
Cypress	30
Elm, White	45
Fir, Douglas spruce	32
Fir, eastern	25
Hemlock	29
Hickory	49
Locust	46
Maple, hard	43
Maple, white	33
Oak, chestnut	54
Oak, live	59
Oak, red, black	41
Oak, white	46
Pine, Oregon	32
Pine, red	30
Pine, white	26
Pine, yellow, longleaf	44
Pine, yellow, short-leaf	38
Poplar	30
Redwood, California	26
Spruce, white, black	27
Walnut, black	38
Walnut, white	26
Mustiness Contents	
Seasoned timber 15 to 20%	35
Green timber up to 50%	63
Various Liquids	
Alcohol, 100%	49
Acids, muriatic, 40%	75
Acids, nitric, 91%	94
Acids, sulphuric, 87%	112
Lard oil, 32°	58
Oils, vegetable	58
Oils, mineral, lubricants	57
Water, 4° C., max. density	62.425
Water, 100° C.	59.830
Water, snow, fresh fallen	58
Water, sea water	64
Gases, Air = 1	
Air, 0° C., 760 mm	1.0805

Reprinted from "Reinforced Concrete" by permission of the Concrete Reinforcing Steel Institute

DATA SHEET NO. B1a. *This sheet, which gives the weight of practically everything you can think of, is the first in your section on "Mechanics." Additional sheets will give proper Live and Dead Loads.*

companies in the country to get absolutely up-to-date and reliable data. We believe that this is the first time such accurate information has been available in convenient and practical form.

CORRECTION. Data Sheet B4a, published in November, should read $f_c = 725$, instead of 650. Thanks to J. W. Germond for calling it to our attention.

A PROPOSED PARK DEVELOPMENT

The plan shown on page 94 of this issue represents a suggestion for the development of Jacob Riis Park in the Borough of Queens, New York, as proposed by the Regional Plan Association.

An offshoot of the Metropolitan Loop Highway, one of the principal elements of the Regional Plan system of communications, leaves the Loop near Jamaica and follows the Rockaway Peninsula whence it rejoins the Loop by means of a tunnel under Jamaica Bay Inlet.

The problem involved a satisfactory handling of this major traffic artery in the Jacob Riis Park area. Although the solution here presented is, of course, merely a preliminary study offered in the hope that the City of New York will have a detailed plan prepared for the development of the Park, it suggests possibilities of active recreational and health facilities which would be somewhat of an innovation in this country. In view of the prospects of increased leisure for the population through the wider adoption of shorter working weeks this sort of development will probably become more and more important.

The area measured from the United States bulkhead lines is 262.6 acres with an average elevation of 4 to 5 feet above the mean water level. The main bathing pavilion was completed last summer.

In the proposed plan the Metropolitan Loop Extension Highway skirts the shore of Jamaica Bay to the point where it crosses by tunnel to Brooklyn. In the design of the Park itself, the westerly half is devoted entirely to athletics, consisting of a stadium in connection with a field house and athletic field for football, track events, etc. A large green would afford space for pageants, parades, and a limited amount of unorganized play. Four junior and four major baseball fields, forty-eight tennis courts, two batteries of handball courts, a playground for girls and a small children's playground adjacent to the beach.

The central portion would have a bus station directly in front of the field house and connecting the music grove and band stand flanked by picnic groves. East of this is a formal garden and restaurant which could be open all year on an upper terrace connecting the main bathing pavilion and boathouse by an elevated pedestrian walk. Under the terrace is a transverse road connecting the parking area with the marginal drive. To the east and on axis with the restaurant is the large outdoor swimming pool for aquatic sports with bleachers for spectators. North of the pool would be the dressing rooms and baths with an indoor pool for winter use. The front portion of this building would house all the administration offices. Beyond the pool the walks would bridge over another transverse road to a large children's playground and wading pool. This playground is intended as an area to serve the children in the neighboring community of Neponsit.

The ocean front would have a large beach, boardwalk, athletic space for bathers, shelters and cabañas. At the west end a second bathing pavilion is shown.

The parking areas would provide space for about 6,000 automobiles. The large area near the beach would be flooded in winter for ice skating and the small areas along the marginal drive would provide space for boat storage during the closed season.

The waters of Jamaica Bay probably will never be in condition for bathers and the plan suggests the water area between the bulkhead and pierhead line for boat storage.

A yacht and canoe basin is located directly in front of the administration building with a yacht club and boathouse at one end. A boat service and repair shop is located at the westerly end of the park.

A LETTER FROM FRANK CHOUTEAU BROWN

One encouraging aspect of existing conditions that should eventually prove to be of the widest benefit to the architectural profession has been brought out recently in connection with some surveys and studies being made by the Real Estate Boards in various parts of the country. While the results of such surveys would naturally vary in different sections, yet it must be regarded as probable that those definite facts that have been found to exist in one particular community must also apply—with minor variations, of course, in detail—to similarly related suburbs outside other large cities.

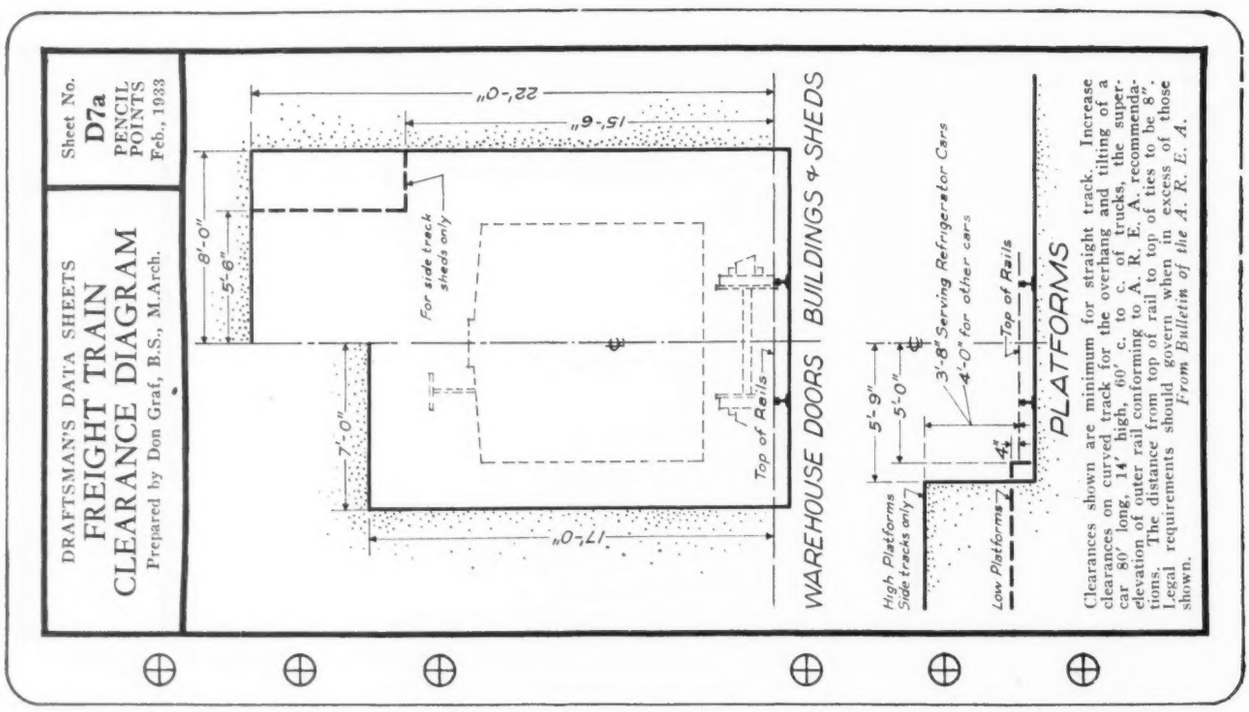
The definite facts are these. A survey of vacant houses available in one of the better and faster developing residential suburbs outside of Boston was recently undertaken by the Home Builders and Subdividers Division of the National Association of Real Estate Boards. They visited a total of 2287 single houses, which included 95 per cent of all the houses in that community, and substantially all those located in the more thickly settled central portions. They found a total vacancy of but fifteen houses in that number—or about seven-tenths of 1 per cent!

The survey was extended to cover houses accommodating more than one family, and it was found that there were 4444 families occupying apartments of this type, with a total vacancy of 114 suites—or about 2.8 per cent. They were able to list only eleven houses as now under construction in the district; and but twelve were found bearing "For Sale" signs. The total percentage of vacancies in both classes of residential houses listed totaled only about 2 per cent.

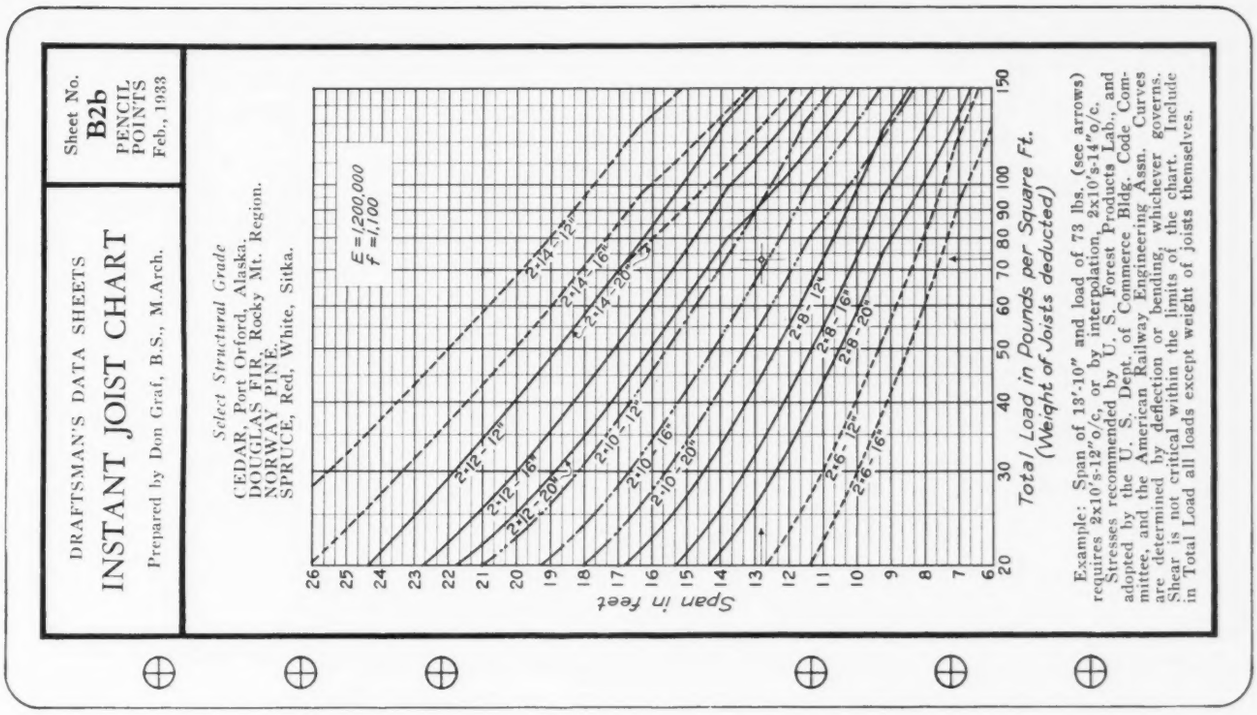
Inasmuch as it is still the dwelling house that provides the principal amount of architectural commissions to the profession, affecting the greatest number of individual offices, and spread over the widest areas of the country, this would seem to indicate that it would take but the slightest amount of increase in the demand to take immediate effect in starting up the building of this class of dwelling; thus affecting at once the largest number of architectural and real estate offices.

While there is no question that this high average of occupancy of dwellings does not apply to all the suburbs about our larger cities; and not to all sections of the country; it is nevertheless a matter of definite encouragement to find the facts of a survey undertaken in so thorough a manner to prove that—as in other business commodities—the margin between supply and demand is maintained upon so narrow a basis that the slightest increase in the latter will make itself immediately felt, and upon a probably definite and rather wide scale.

It is not forgotten that the small house, of both one and two family type, is often the concern of the speculative builder; as was undoubtedly the case in the particular suburb under analysis—but the speculative builder is one of the groups that have suffered tremendous casualties during the last two years, and is therefore probably not in a position to revive in as large numbers as was the case before the recent slump in building operations began to make itself felt. It may also seem probable that, even during this interval, the gradual betterment of the average of public taste has been going on; so that the proportionate demand for the better designed and planned house will have been found to have increased when the building of small homes throughout the country actually is resumed!


DRAFTSMAN'S DATA SHEETS
FREIGHT TRAIN CLEARANCE DIAGRAM
Prepared by Don Graf, B.S., M.Arch.
Sheet No. D7a
PENCIL POINTS Feb., 1933
22'-0"
15'-6"
8'-0"
5'-6"
For side track sheds only
7'-0"
17'-0"
Top of Rails
WAREHOUSE DOORS | BUILDINGS & SHEDS
5'-9"
5'-0"
3'-8" Serving Refrigerator Cars
4'-0" for other cars
Top of Rails
4"
High Platforms Side tracks only
Low Platforms
PLATFORMS
Clearances shown are minimum for straight track. Increase clearances on curved track for the overhang and tilting of a car 80' long, 14' high, 60' c. to c. of trucks, the superelevation of outer rail conforming to A. R. E. A. recommendations. The distance from top of rail to top of ties to be 8". Legal requirements should govern when in excess of those shown.
From Bulletin of the A. R. E. A.

DATA SHEET NO. D7a. *This sheet appears in response to numerous requests. In the planning of warehouses and loading platforms the necessary clearances and heights are difficult for the designer to find. The above is the recommendation of the American Railway Association.*


DRAFTSMAN'S DATA SHEETS
INSTANT JOIST CHART
Prepared by Don Graf, B.S., M.Arch.
Sheet No. B2b
PENCIL POINTS
Feb., 1933
Select Structural Grade
CEDAR, Port Orford, Alaska.
DOUGLAS FIR, Rocky Mt. Region.
NORWAY PINE.
SPRUCE, Red, White, Sitka.
E=1,200,000
f=1,100
Span in feet
Total Load in Pounds per Square Ft.
(Weight of Joists deducted)
2"x14"-12"
2"x14"-16"
2"x14"-20"
2"x12"-12"
2"x12"-16"
2"x12"-20"
2"x10"-12"
2"x10"-16"
2"x10"-20"
2"x8"-12"
2"x8"-16"
2"x8"-20"
2"x6"-12"
2"x6"-16"
Example: Span of 13'-10" and load of 73 lbs. (see arrows) requires 2x10's-12"o/c. or by interpolation, 2x10's-14"o/c.
Stresses recommended by U. S. Forest Products Lab., and adopted by the U. S. Dept. of Commerce Bldg. Code Committee, and the American Railway Engineering Assn. Curves are determined by deflection or bending, whichever governs. Shear is not critical within the limits of the chart. Include in Total Load all loads except weight of joists themselves.

DATA SHEET NO. B2b. *Here is an instant reading joist chart, which saves all annoyance in determining whether it is moment or deflection that governs. It is far quicker and less likely to inspire errors than any of the usual "tables of joist sizes," for the values shown on this one small graph would take many pages in tabular form.*

ROCHESTER SOCIETY OF ARCHITECTS

The Rochester (New York) Society of Architects, in its endeavor to see through the mist of building uncertainty, has endorsed by resolution a plan of action. This plan will be educational in its purposes and far reaching in its results, helping all connected with the building trades and professions.

A permanent architectural sample and sales promotion exhibit displaying modern building materials is being established at 72 Franklin Street. The exhibit is intended to facilitate the inspection of building materials and equipment at a central point, this exhibit being open to the public for general information and enlightenment. It is planned to have manufacturers conduct lectures, introducing their products; an opportunity that manufacturers have long sought after, bringing their product directly to the attention of the architect.

At this exhibit a complete A.I.A. file will be maintained for the members of the Rochester Society of Architects as well as builders.

All manufacturers and dealers in building equipment, materials, or supplies are invited to send their literature to the Architects & Builders Exhibit, 72 Franklin Street, Rochester, N. Y.

MURALS BY MARGARET A. DOBSON

Murals done by Margaret A. Dobson will be shown in the Exhibition Rooms of the Architects Building, Fifth and Figueroa Streets, Los Angeles, from February 15th to 28th.

Miss Dobson was awarded a medal from the French Masters of Fine Arts for decorating a school in Paris. While in France she also executed decorations for the Church at Montereau not far from Paris, and did two commissions for the hospital at Fontainebleau and a room in the Palace at Fontainebleau, an honor for an American artist. Since returning to this country Miss Dobson executed a decoration for one of the colonial buildings of the Pennsylvania Academy of Fine Arts School at Chester Springs, Pennsylvania. She is a member of the National Arts Club in New York, a member of the *Société des Artists Fresquistes*, Paris. The exhibition will include reproductions of many of the most fascinating commissions she has had.

BROOKLYN ARCHITECTS MEET IN JERSEY

The January dinner meeting of the Brooklyn (New York) Chapter, American Institute of Architects, was held at the Downtown Club, at Newark, New Jersey. The members were the guests of the New Jersey Chapter, A.I.A., and the New Jersey Society of Architects, of which the Secretary is Clement W. Fairweather, formerly a member of the Brooklyn chapter.

The Brooklyn Chapter passed a resolution to remit all dues for a year and seven months ending January 1st, 1934, owing to the inability of many of the members to meet payment at this time.

Réné Chambellan, Sculptor, presented many photographs and models of his work in connection with design of many of the prominent and artistic buildings in the country and explained the advantages of designing directly in three dimensions through the model and completing the architectural drawings, details, and perspectives from the models.

All present were greatly interested in the technique of modelling which Mr. Chambellan demonstrated by converting a plain block of plasteline into the model of an attractive office building and then cutting it apart and remodelling to different forms to indicate that a design could be changed and studied directly in the model as easily as by the erasing and changing of drawings.

NORTHERN NEW JERSEY ARCHITECTS LEAGUE

Under the terms of the will of the late Anton L. Vegliante, whose estate has now been liquidated, the sum of $5000 is being invested in trust for the benefit of the Architects League of Northern New Jersey for the purpose of making an Annual Award to some member of the League who has distinguished himself during the preceding year in the architectural world, or who, because of his achievements and accomplishments, merits such an award. The same shall be known as the Vegliante Memorial Award.

Mr. Vegliante was a practicing architect of Garfield, N. J., where he conducted an extensive practice, outstanding among which were several large schools and churches. He was a member of several fraternal organizations and was one of the founders and charter members of the Architects League of Northern New Jersey.

In the present emergency the League has cancelled dues and application or initiation fees in order to assist its members through the present crisis and to permit new members to join without any economic obstacles, provided they have the required qualifications. One-dollar contributions are solicited from those who are able to donate same to carry on the routine work of the League, which meets on the third Thursday of each month at the Elm Chateau, State Street, Hackensack, N. J. Visitors are welcome.

CONFERENCE ON CHURCH ARCHITECTURE

The 1933 session of the North American Conference on Church Architecture will be held in the Stevens Hotel, Chicago, February 16, 17, and 18.

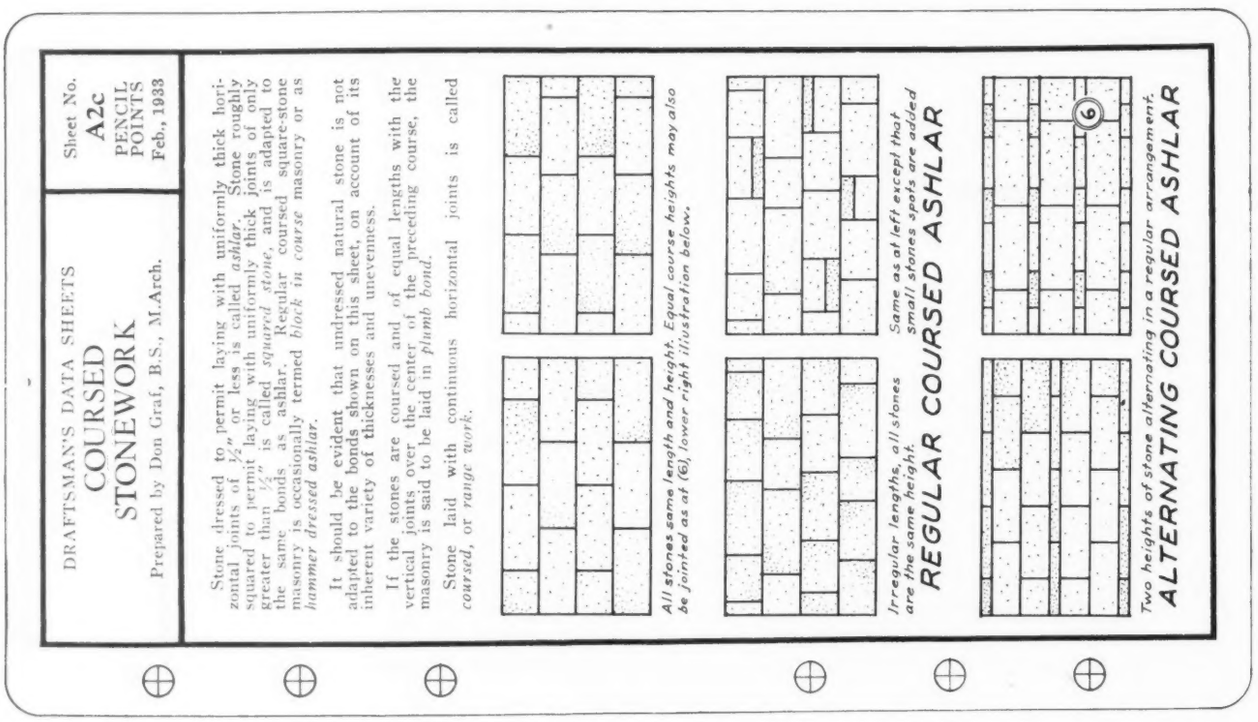
In connection with the Conference, will be held the annual *Christian Herald* exhibit of ecclesiastical architecture, to which church architects from all over the country are invited to send their contributions. Awards will be made to architects for the excellence of their church work as shown in their exhibit material. To qualify as a competitor for these awards, each church shown must be represented by at least the following: 1. one general exterior photograph; 2. one interior photograph; 3. photograph of one exterior or interior detail; 4. complete floor plans in outline but with principal dimensions given; 5. statement of number of sittings in the nave or auditorium and total cost of the building, including such architecturally designed equipment and furnishings as pews, altars, and so forth, but not including pipe organs, carillons or equipment and furniture not a part of the general building contract.

These exhibits will be judged by a jury of three architects to be appointed by the Chicago chapter of the American Institute of Architects.

A joint committee of 12 architects representing the Chicago chapter and the Illinois Society of Architects is working under the chairmanship of William Jones Smith, of Childs & Smith, in cooperation with Christian Herald, in setting up this exhibit and in preparing for the Conference. Architects desiring to send material to the exhibit should correspond with Wayne G. Miller, Director of Department of Church Planning, *Christian Herald*, 419 Fourth Avenue, New York.

COMPETITION FOR COVER DESIGN

The *House Beautiful* magazine has announced its eleventh cover design competition, open to all artists everywhere. Prizes will be offered as follows: first prize, $500; second prize, $300; a special student prize of $250. In addition to the prizes several of the designs will be purchased for $200 each. The competition closes May 4th, 1933. For complete information write *The House Beautiful*, 8 Arlington Street, Boston, Mass.


DRAFTSMAN'S DATA SHEETS
COURSED STONEWORK
Prepared by Don Graf, B.S., M.Arch.
Sheet No. A2c
PENCIL POINTS Feb., 1933
Stone dressed to permit laying with uniformly thick horizontal joints of ½" or less is called ashlar. Stone roughly squared to permit laying with uniformly thick joints of only greater than ½" is called squared stone, and is adapted to the same bonds as ashlar. Regular coursed square-stone masonry is occasionally termed block in course masonry or as hammer dressed ashlar.
It should be evident that undressed natural stone is not adapted to the bonds shown on this sheet, on account of its inherent variety of thicknesses and unevenness.
If the stones are coursed and of equal lengths with the vertical joints over the center of the preceding course, the masonry is said to be laid in plumb bond.
Stone laid with continuous horizontal joints is called coursed, or range work.
All stones same length and height. Equal course heights may also be jointed as at (6) lower right illustration below.
Irregular lengths, all stones are the same height.
Same as at left except that small stones spots are added
REGULAR COURSED ASHLAR
6
Two heights of stone alternating in a regular arrangement.
ALTERNATING COURSED ASHLAR

DATA SHEET NO. A2c. *The last of three sheets defining and illustrating the usual bonds used in stonework. The terms are used loosely by many draftsmen as well as by some of the writers of architectural textbooks, without a clear idea of what is meant by some of them.*

THE SPECIFICATION DESK

Floors and Flooring Materials—2

By David B. Emerson

Editor's Note:—*Part 1 of this article, covering wood floors, cork tile floors, rubber tile floors, and mastic floors, was published in the January issue.*

Asphalt Tile Floors

Asphalt tiles are a comparatively new flooring material but they have given excellent service during the time they have been used. They are composed of binders made up of asphalts, pitches, resins or a combination of these ingredients, together with fillers such as asbestos fiber, asbestine, or other minerals combined with the necessary mineral coloring pigments. The asphalt base renders them non-absorptive; therefore they can be used with perfect safety in basements and damp spaces where some of the other flooring materials can not be used. They are noiseless, highly resilient, non-absorbent, acid and alkali resistant and will not curl or buckle. They have good wearing quality and are fire resisting due to the asbestos used in their composition.

The standard sizes made by practically all manufacturers are 6 inches x 6 inches, 9 inches x 9 inches, 9 inches x 27 inches, 12 inches x 12 inches, 12 inches x 24 inches, and 18 inches x 24 inches. The standard thicknesses are ⅛ inch, 3/16 inch and some manufacturers make a special tile ⅜ inch thick. They are made in about twelve plain colors and about thirty different mottled colors.

Asphalt tile can be laid either on a cement base or a wood base, and practically the same conditions which are required for a base for cork tile or rubber tile apply to asphalt tile, except that an underflooring should always be laid on top of the wood base. This underflooring is composed of some form of plastic fireproof material reinforced with galvanized wire mesh and having a minimum thickness of ⅜ inch. Asphalt tiles are laid in a special asphalt cement, which in practically all cases is some type of emulsified asphalt and may be finished practically the same as mastic floors and the same precautions in the selection of finishing materials must be followed.

Linoleum

Linoleum is one of the most extensively used floor materials, nearly twenty-five per cent of all the flooring material on all construction work, other than in residences, being of linoleum. It is generally claimed to have been invented in England by Frederick Walton, who obtained a patent for the process in 1860. It is composed of linseed oil, which is oxidized until it hardens to a tough rubber-like substance, then mixed with powdered cork, wood flour, various varnish gums and suitable color pigments, and pressed on burlap by means of heavy steel rolls. It comes in many solid colors and in innumerable patterns. In fact there is no limit to the possibilities of color combinations with this material. The patterns extend clear through the linoleum composition, consequently they can not wear off.

Linoleum is made in five standard thicknesses, designated as "Heavy Battleship," 6 millimeters, approximately ¼ inch thick, "Medium Battleship," approximately 3/16 inch thick, "Light Battleship," "A gauge," approximately 5/32 inch thick, "B gauge," approximately ⅛ inch thick, and "C gauge," approximately 3/32 inch thick. It comes in rolls generally two yards wide. Some linoleums are finished with lacquer at the factory and some are waxed.

Linoleum, like all of the other so-called soft floorings previously described, can be laid on either a cement or wood base but, like rubber tile, should never be laid on cement floors which are in direct contact with the ground. Practically the same conditions with regards to the base which are required for all other soft flooring materials apply to linoleum. On a cement base it should be laid so that the edges of the sheets will have a lap of ½ inch to ¾ inch, and it should be secured to the cement floor to within four inches of the seams, using a special linoleum paste. It should be thoroughly rolled into the paste with an iron roller. After the body of the linoleum has been thoroughly cemented to the floor, with the seams properly lapped, the seams should then be cut through both thicknesses and the area beneath the edges of the linoleum embedded in linoleum paste (some manufacturers recommend a special waterproof cement) and thoroughly rolled down to give a tight, even job. Patterned linoleum should be laid with butt joints, so that the pattern will be continuous. All seams and joinings in the linoleum should be thoroughly weighted down to secure perfect adhesion.

On a wood base the floor should be covered with lining felt weighing 1½ pounds per square yard, laid with the material at right angles to the floor boards, with butted joints and with cross joints staggered.

The felt should be bedded in linoleum paste and well rolled into the adhesive. The linoleum should then be laid in the same manner as on a cement base.

The finishing of the linoleum after laying is a very important item and means much to the appearance of the floor. Varnish should never be used on linoleum because of the flexibility and resilience of the material, and it cannot be used at all on linoleum that has been given a protective coat of wax at the factory. Shellac is even more unsatisfactory than varnish, due to its brittleness, and should never be used on linoleum, under any circumstance whatsoever. One of the best, if not the best, treatments for linoleum is a coat of lacquer and one or two coats of wax, if not waxed at the factory, which is always to be preferred.

All of the preceding floor materials which have been described can be used very satisfactorily for stair treads, and all of them have special sections for bases, plinths and

wainscots. Also, there are numerous special metal attachments on the market which provide stair nosings, edge and border strips, and all other necessary attachments to finish the floors properly.

Burnt Clay Tile Floors

Of the various hard floors, tile is without doubt the most widely used of any. The different kinds of tile in general use and the methods of manufacture were very thoroughly described in my article "Burnt Clay," Part II (Pencil Points, January, 1930).

Tile as a flooring material has many excellent qualities; the vitreous tiles are absolutely impervious and nonstaining; they are unaffected by moisture, and due to the process of manufacture are positively nonfading. For use in bathrooms, toilet rooms and similar spaces, ceramic tiles are probably the most suitable. For kitchens in hotels, clubs, hospitals, and institutions of a similar character, quarry tiles are probably the most suitable. For rooms where a decorative effect is desired there is a very extensive range of tile in the quarry tiles, flint tiles, and the numerous types of unglazed floor tiles in all shapes, sizes, and colors.

One thing I would advise is never to use glazed tiles for floors where there is to be any amount of traffic, as the glaze is very liable to fracture and chip off.

All floor tile should be laid in a setting bed of mortar, composed of one part Portland cement and three parts sand, and may be tempered with about five per cent hydrated lime. The foundation for tile floors may be either a cinder concrete fill on the floor slab or the floor slab itself (this is not recommended, but conditions may make it necessary), in fireproof buildings, and cinder concrete fill on wood platforms in wood framed buildings. For ceramic and flint tiles the foundation should finish 1½ inches below the finished floor level, and for quarry tiles, the foundation should finish about 2 inches below the finished floor level. Ceramic mosaic tiles, as the small ceramic tiles are called, are mounted face downward on heavy sheets of paper at the factory, in strips usually about two feet long by one foot wide. After the tiles have been set in the mortar setting bed, the paper is moistened and peeled off. Ceramic and flint tiles should be laid with close joints, grouted with Portland cement mortar, and quarry tile should be laid with joints ¼ or ½ inch wide and slightly concaved. Joint strips ½ inch wide are made by some of the tile manufacturers so that quarry tiles may be laid with tight joints. This method of laying quarry tiles is favored by some architects for use in hotel and restaurant kitchens, as they claim that the wide cement joints absorb grease.

With the great variety of colors and shapes which are available at the present time it is possible to produce a range of patterns in tile floors from the simple arrangement of squares and rectangles in solid colors to intricate weaves in color combinations which equal, if not surpass, the parquetry of the French palaces.

Terrazzo Floors

Terrazzo is at the present time, next to tile, the most extensively used of the hard floors. Terrazzo Veneziano, as it was originally called, takes its name from the province of Venetia in Italy, where it had its origin and where it was extensively used for flooring. Just when it was first used is almost impossible to determine, but it probably dates back to the Middle Ages. The early terrazzo was composed of lime mortar, mixed very dry and inlaid with small pieces of marble, not too large to pass through a one and a half inch ring; the whole mass beaten hard, rubbed down, and polished.

Our present-day terrazzo is somewhat different, but much of the old fundamental principle still exists. The chips or granules are graded into three sizes, "No. 1," which is about ⅛ inch to about ¼ inch in size, "No. 2," which is about ¼ inch to about ⅜ inch in size, and "No. 3," which is about ⅜ inch to ⅞ inch in size. There are about twenty-three different domestic marble and limestone granules on the market, and about fourteen foreign marbles are being imported at the present time, and an infinite number of different combinations are possible, using different quantities of the different granules and different colored cement. Some of the leading terrazzo contractors in New York City figure the same price for terrazzo, no matter what combinations are called for, so that is one item which the specification writer does not have to worry over. Terrazzo can be laid over either concrete floor slabs (the most general method), or over wood floors.

There are two methods of laying terrazzo, both of which can be used over concrete floor slabs. With the first method a cinder concrete fill not less than 1½ inches thick is laid on the floor slab, finishing two inches below the finished floor level. Over this cinder fill an under bed 1¼ inches thick, composed of one part Portland cement and four parts sand, is laid. The terrazzo topping is laid on this under bed and should be between ½ inch and ¾ inch thick, composed of two hundred pounds of granules to one hundred pounds of either gray or white Portland cement. Where colored cement is desired the colors should be the best nonfading alkali resistant mineral pigments.

The second method, used where there is any possibility of cracking due either to settlement, expansion and contraction or excessive vibration, is slightly different from the first method. With this method a total thickness of at least 3 inches is required, and the work is started directly on the concrete floor slab. The slab is first covered with a thin bed of dry sand (about ¼ inch thick), over which a single thickness of tarred paper is laid, thoroughly lapping all joints. The setting bed, which should be at least 2 inches thick, is laid over the tarred paper, and the terrazzo topping is laid over this setting bed, exactly the same as with the first method. The setting bed in the second method where its thickness exceeds 2½ inches may contain a coarser aggregate, such as fine gravel or cinders.

Where terrazzo is laid over a wood floor, the floor should first be covered with tarred paper, over which a galvanized wire netting made up of No. 14 gauge wire 2 inch mesh should be securely nailed. Over this the concrete under bed and terrazzo topping as described in the second method should be laid.

One of the most important items in the laying of terrazzo floors, and the one which prevents cracking (the great fault with terrazzo floors in the past), is the proper use of metal dividing strips in the terrazzo topping. These strips are made of brass, white metal, aluminum and various alloys. They are usually 1¼ inches wide and of different thicknesses, No. 20 gauge, No. 18 gauge, No. 16 gauge, No. 14 gauge and ⅛ inch being most generally used. Any type of strip which may be used should have some feature which will produce a positive mechanical bond between the terrazzo topping and the strip, and all of the better type of strips have it. If aluminum strips are used they should always be painted with a paint having an asphalt base, due to the corrosive action of the alkali in the cement on the aluminum.

The strips should always be so placed as to divide the floor into two foot squares, or into geometric patterns,

each division of which shall have an area of not over five square feet. Wherever possible the strips should come directly over the floor beams, as that is the vulnerable spot in all flooring so far as cracking is concerned. Too much stress cannot be laid on dividing the floor surface into small units. I know of one very fine office building in New York City, built about ten years ago, where the floors in the corridors are divided into four foot squares, and there are numberless cracks, whereas, I know of a great number of floors laid about the same time with two foot squares, or smaller, where there are no cracks. The strips should always be installed while the under bed is in a semiplastic state, and should be set down into the mortar about ½ inch.

The terrazzo topping should be placed in the spaces formed by the dividing strips, and right here let me give a word of advice to the prospective user of terrazzo. If there is any need for economy in installing terrazzo, always remember to use only one color combination in the floor, as in that case the entire floor can be laid in one operation whereas if two or more combinations are used, all the spaces in one combination must be laid and some time allowed for the mass to set, and then all the spaces in the other combination will have to be laid, which naturally increases the labor cost. Although this extra cost is not much per square foot, it counts up in a twenty-story building. When finished a good terrazzo floor should show the maximum amount of marble granule obtainable.

When the terrazzo has set sufficiently hard it should be machine rubbed with abrasive stones and brought to a smooth finish.

Where a nonslipping surface is desired in terrazzo floors, an abrasive aggregate, composed of aluminum oxide, which is an electric furnace product, can be mixed with the terrazzo topping using two parts abrasive to three parts granule where the floor is liable to be used for heavy traffic. Where the floors are only to be used for light traffic, the abrasive may be sprinkled on the surface only in such quantity as will show in the proportions of five parts granule to one part abrasive.

Where a decorative effect is desired or any particular scheme of design has to be followed out, terrazzo floors are frequently laid with marble borders.

Terrazzo does not require any particular finish, but a new type of material is on the market which, when applied to the surface of the freshly finished terrazzo, acts as a sealer, thereby preventing the too rapid evaporation of the moisture contained in the mixture. This treatment slows down the period of setting, makes the terrazzo harder, and aids materially in preventing cracks.

Terrazzo base, wainscot, partitions, and stair treads are quite extensively used and have given very good results. These can be either precast or run on the job. When terrazzo wainscot is run on the job the topping is installed in two layers, each ⅜ inch thick.

Mosaic Floors

Mosaic floors have been in use so long, that no one knows just when or where they originated. We do know that they were used extensively by the Greeks and by the Romans, and that the Romans extended their use as far as Britain, where many examples have been found in London, in Bath, in the Isle of Wight, and as far west as Caerwent in Monmouthshire. The Roman mosaic was a work of art both from the standpoint of design and craftsmanship. They made use of practically every colored marble then available, and the number of quarries which were operated at that time was large, and extended over a far-reaching empire.

The modern mosaic is made up of marble cuboids usually about ¾ inch square, called "tesseræ." For ornamental designs, pieces of triangular or other shapes are used. In laying mosaic floors it is customary to arrange the tesseræ face downward on sheets of fairly heavy paper, large enough to contain reasonably large sized units of the floor. Where special designs are used in the work, the design is drawn on the paper, and the pieces are set on the drawing. The pieces of marble are stuck to the paper with an adhesive material which will lose its strength when wet. These mosaic units are laid in place in a setting bed of cement mortar composed of one part Portland cement, two parts sand, and a sufficient quantity of hydrated lime or lime putty to render the mortar plastic. This setting bed should be laid on an under bed of cement mortar, one inch thick, mixed in the proportions of one part Portland cement and three parts sand, laid on a cinder concrete fill and levelled off one inch below the finished floor level. The paper backing is stripped as soon as it can be done without pulling the tesseræ out of the setting mortar. Usually the work necessary to connect the adjacent units of the mosaic is done by setting the intervening material by hand, piece by piece. More or less of this work is usually necessary to complete the job.

The floor should be well grouted with cement mortar and machine rubbed with abrasive stones.

Brass dividing strips are used to prevent mosaic floors from cracking the same as with terrazzo.

The most noticeable difference between the Roman mosaic and the modern mosaic is the size of the tesseræ, those used by the Romans generally being only ¼ inch square. In the Pompeian Garden in the Metropolitan Museum of Art the floor was laid with tesseræ of that size, and it certainly looks much better than the usual modern work.

Very pleasing effects have been obtained by using combinations of terrazzo and mosaic in floors. Where this is done the two materials should always be separated by brass dividing strips.

Mosaic floors, like terrazzo floors, are frequently laid with marble borders to obtain the desired decorative effect.

Marble Floors

Marble floors are generally used where the most decorative effect is desired, and where the question of expense does not have to be considered. Marble has been the accepted flooring material in a high class building, both public and private, for centuries. It was used both by the Greeks and by the Romans, and the floors in the Villa of Hadrian near Tivoli still exist. It was used quite extensively in Italy and France during the time of the Renaissance. In England from the time of Wren up to and through the time of the Brothers Adam, floors laid in diagonal squares of black and white marble were almost universal in the stair halls and some of the more important rooms in the finer class of houses, and their use has continued down to the present time.

In this country the use of marble as a flooring material did not begin, so far as I can learn, until about the end of the eighteenth or the beginning of the nineteenth century, and then only in public and semipublic buildings. This was undoubtedly due to the fact that the domestic quarries had not been properly worked, and the importation of large quantities of foreign marbles was hardly feasible with the small amount of shipping the colonists had at their command.

Marble floors are divided into two types; namely the tile floor and the slab floor, the difference being merely in the size of the units used in the floor. Marble tiles are small,

thin slabs of marble cut to a suitable size and shape. They vary from 6 inches x 6 inches to 12 inches x 24 inches, and do not exceed two square feet in area. All sizes larger than this are classed as "floor slabs." Small tiles less than 6 inches x 6 inches, used in pattern floors, are known as "dots." The long narrow strips which are used as boundaries and subdivisions in floors, the main body or "field" of which is of marble tiles, terrazzo, or mosaic, is known as "border." Tile within the limits of size given, border, even in rather long strips, and dots, can be produced in a considerable quantity from odd pieces cut from material which will not yield merchantable stock, except in the comparatively small sizes used for tile, border, and dots. As these items are naturally more or less of a by-product of the marble industry, the price at which they are sold is very naturally influenced thereby. Border more than 12 inches wide or more than 6 feet long, and tiles larger than the sizes given cannot be obtained under ordinary conditions, except from large slabs of merchantable stock, therefore they cease to be a by-product, and the price very naturally increases accordingly. Tiles and border are made from stock that is from 7/8 inch to 1¼ inches thick as it comes from the saws; the finished material will vary in thickness from about ¾ inch to 1⅛ inches, but about ninety per cent will ordinarily run about 13/16 inch thick. If they are specified to be of any thickness beyond these limits or of any perfectly uniform thickness, they will cease to be a by-product, and again the price increases.

Large slabs should be specified to be at least 1¼ inches thick, so that they will not break in handling. Slabs which are more than 18 inches wide, and more than 4 feet long, or which contain more than six square feet, should be specified to be of greater thickness.

All tile and border should have the edges "full" at least ½ inch from the top. If the edges are undercut too near the top surface, the thin edges will crumble and wear away. Tiles cut to size with an abrasive wheel generally have full edges for the entire thickness, whereas those that are squared up on a rubbing bed generally have undercut edges. Although too much undercutting is not good, a little undercutting is really very good, as it makes it much easier to bed the tile accurately, because it leaves a little space to take up the surplus mortar when the tile is tamped in place.

Marble floors should be set in a bed of cement mortar, composed of one part Portland cement, and two parts sand, mixed so as to be quite stiff. The thickness of the mortar should at no point be less than 1 inch, nor more than 1½ inches. Before setting the under side of all floor marble should be well buttered with liquid cement.

The joints in marble floors should not exceed 1/16 inch, unless a wider joint is specified to obtain a desired artistic effect.

After the mortar setting bed has set hard enough to bear the weight of the workmen, all joints should be thoroughly grouted with neat cement, brushed in until all joints including the spaces under the edges of undercut tiles are solidly filled with the grout. With white and very light-colored marbles it is a very good practice, and recommended by some of the best authorities, to grout with nonstaining white Portland cement.

Marble floors should be given a fine sand machine finish or be finished with what is known in the trade as "No. 80 grit abrasive rubs."

In selecting marble for flooring purposes, where more than one kind of marble is to be used, care should always be exercised to select marbles which are as nearly as possible equal in their resistance to abrasion, so that they will wear equally. As a general rule it is better to select "unicolored" marbles for flooring; they are generally more sound than most other kinds of marbles. The highly colored "variegated" marbles should be avoided, as they are generally unsound, and the beauty of their colors is seldom brought out except by polishing, and with a sand rubbed finish they sometimes only look dull and dirty. Some of the Group "C" and even Group "D" marbles are quite hard and resist abrasion very well, and although they are unsound in large slabs, will often produce good marble tiles.

Soapstone Floors

Soapstone is quite frequently used as a flooring material and makes an excellent floor. It looks very well and on account of its neutral color it harmonizes with any surrounding material or any decorative scheme. Due to its extreme hardness it wears very well and also it is non-slipping. It is subject to practically the same conditions as marble as to cutting and setting, except that soapstone slabs are usually 1¼ inches thick. The hard soapstone should always be used for flooring. Soapstone floors are generally given what is known as a "toothed abrasive" finish by rubbing with steel shavings. They can be given a sand rubbed finish, but it is not recommended. Soapstone floors should be set in practically the same manner as described for marble floors.

Slate Floors

Slate has come into prominence in this country as a flooring material, of late years, although it was used abroad for centuries. It is an excellent wearing material, and its interesting range of color produces a very pleasing floor. It is a dense, compact natural rock and is one of the least absorptive of all natural stones. As a flooring material it has a number of decided advantages, some of which are a wide range of unfading colors, a desirable texture, freedom from cracking or splitting, and the natural characteristic of the material which makes it non-slippery. It has been used in many different types of buildings, but it seems to fit particularly well into church buildings. The Chapel of the Intercession in New York City, designed by Bertram Grosvenor Goodhue, has a very fine slate floor which harmonizes remarkably well with its architecture. Slate floors are laid in numerous patterns, among which are the "random," or "irregular," with rough edges, "semirectangular," and "random rectangular," with sawn edges, or in elaborate geometrical patterns as was done in the Detroit Institute of Arts. It may have a rough split surface, or where a more formal treatment is desired it can be given a smooth rubbed finish.

Slate floors should be set in cement mortar, the setting bed being from 1 to 2 inches thick, and all joints should be well pointed up with cement mortar, composed of one part Portland cement and two parts sand.

Flagstone Floors

In addition to the various stone floors described various kinds of flagstones are used for flooring. These stones are practically all of a fissile character, and are cut, jointed and laid practically the same as slate, and all of them produce very interesting floors which give excellent service.

Magnesite Floors

Magnesite floors are a special compound in which the principal ingredient is magnesite, a magnesium carbonate. They are made in plain color and in a special terrazzo. They give very good service, are resilient and fire resisting. These floors so far as I know are always laid by the

(Continued on page 25, Advertising Section)

ELDORADO

THE MASTER DRAWING PENCIL

WE TOLD you last month that with a pair of shears, plenty of paper, a bottle of paste, pins, and a bright light — and Eldorado, the master drawing pencil — we were going to build a world for you, and record its rise.

The first thing we built in our new world was this paper garden, with its cardboard arch, fountain and run of steps. Naturally, we didn't try for realism. Our main object was to experiment with composition — to see how and with what degrees of lead we could best achieve certain effects of light and shade.

Notice that no matter how soft we wanted our light tones, we used a hard pencil — too soft a pencil would have made them look "grainy." Likewise, for dark tones we used a soft pencil — too hard a pencil would have made them look "shiny." And you'd better have a kneaded eraser around, we advise, to pick off tones that you might have over-emphasized.

We? Here *we* are taking all the credit. Ernest Watson did the construction work on this world-building job — and as well did the pencil work. But we can't give *him* all the credit either. For, as he will tell you, Eldorado comes in for a large share of applause. Its smooth, flowing lead and constant accuracy of degree were perfectly adapted for the work. Try it and see for yourself! . . . Joseph Dixon Crucible Company, Dept. 167-J, Jersey City, N. J.

SERVICE DEPARTMENTS

THE MART. In this department we will print, free of charge, notices from readers (dealers excepted) having for sale, or desiring to purchase books, drawing instruments, and other property pertaining directly to the profession or business in which most of us are engaged. Such notices will be inserted in one issue only, but there is no limit to the number of different notices pertaining to different things which any subscriber may insert.

PERSONAL NOTICES. Announcements concerning the opening of new offices for the practice of architecture, changes in architectural firms, changes of address and items of personal interest will be printed free of charge.

FREE EMPLOYMENT SERVICE. In this department we shall continue to print, free of charge, notices from architects or others requiring designers, draftsmen, specification writers, or superintendents, as well as from those seeking similar positions. Such notices will also be posted on the job bulletin board at our main office, which is accessible to all.

SPECIAL NOTICE TO ARCHITECTS LOCATED OUTSIDE OF THE UNITED STATES: Should you be interested in any building material or equipment manufactured in America, we will gladly procure and send, without charge, any information you may desire concerning it.

Notices submitted for publication in these Service Departments must reach us before the fifth of each month if they are to be inserted in the next issue. Address all communications to 330 West 42nd Street, New York, N. Y.

THE MART

Robert West, c/o John Duncan Forsyth, 115 East 18th Street, Tulsa, Okla., would like to obtain the following copies of the *White Pine Series:* Vol. 2, Nos. 1 and 3; Vol. 3, Nos. 1 and 4. State price.

W. B. Vennard, Mobridge, S. D., has the following copies of PENCIL POINTS for sale: October, 1926; 1927 and 1932, complete. All in perfect condition.

Milton Kraus, 35½ West 183rd Street, New York, N. Y., would like to secure the following copies of PENCIL POINTS: June, July, August, October, December, 1930; March, 1931. He will pay 35c each, plus postage.

John Cushing, 826 South Harvard, Tulsa, Okla., would like to purchase copies of *The Architect*, years 1925 to 1932.

Stephen J. Ames, 1630 Massachusetts Ave., S. E., Washington, D. C., has the following for sale: copy of *Esquie-Vignola;* PENCIL POINTS from July through December, 1926; April, 1929, through March, 1930, the lot, or separately.

Irvin D. Feig, 2511 Gladstone Avenue, Detroit, Michigan, would like to buy recent edition Kidder-Nolan handbook, Sweet's catalog, and textbooks or treatises on design, structural engineering, or specifications. State prices and condition of books.

Harry B. Shanes, 6224 N. 13th Street, Philadelphia, Pa., would like to obtain PENCIL POINTS or any matter that may be of interest to an illustrator.

Walter Greenwald, Center Moriches, L. I., N. Y., has for sale a copy of *Drawing with Pen and Ink*, Guptill, never used. Make offer.

Emiel Padvy, Architectural Group, Hudson Guild, Andover, N. J., has an adjustable drafting table, 3′0″ x 4′6″ top, adjustable up, down and on angle, list price by Dietzgen, $22.00. He would like to exchange this for polyface duplex slide rule 10″, Keuffel & Esser, with frameless indicator and magnifier, in leather case.

Margaret Osborn, 1477 East Boulevard, Cleveland, Ohio, has for sale *A Manual of Architectural Composition*, by John Theodore Haneman, in perfect condition. Price $3.50, postpaid.

Victor Spector, 1048 Winona Avenue, Chicago, Ill., would like to purchase copies of the *Beaux-Arts Bulletin* from January, 1929, to 1933, complete, or in sets of one year.

John L. Murray, 1025 N. Olden Avenue, Trenton, N. J., has for sale copies of PENCIL POINTS from October, 1929, to October, 1930, inclusive, 40c each, postpaid.

PERSONALS

PAUL G. SILBER & CO., ARCHITECTS AND ENGINEERS, have moved their office to 101½ W. Pecan St., San Antonio, Texas.

S. J. MAKIELSKI, ARCHITECT, has moved his office from Charlottesville, Va., to Barracks Road, University, Va.

KEMPER GOODWIN, ARCHITECT, has opened his own office at 208 Kangerga Bldg., Henderson, Texas.

RAWSON HADDON: Mrs. Lilian Wadsworth would like to get in touch with Mr. Haddon to consult on some architectural problems. Address 161 King's Highway, Westport, Conn.

RAPP & MEACHAM, ARCHITECTS, have moved their offices from The Mercantile Library Bldg. to 1100-1-2 Times Star Tower, 800 Broadway, Cincinnati, Ohio.

JOHN J. TRICH has opened an office for the practice of architecture at 329 Ridge Road, Rutherford, N. J.

HALL, STROMQUIST & RICE, ARCHITECTS, 175 W. Jackson Blvd., Chicago, Ill., have formed a partnership to succeed the firm of Emery Stanford Hall, Bisbee & Rhenisch. The principals of the firm are, Emery Stanford Hall, Victor H. Stromquist and Nelson P. Rice. F. Harris Wells is associated as structural engineer. They will carry on a general practice of architecture.

PHILIP L. SMALL, INC., Terminal Tower, Cleveland, Ohio, has changed the name of the firm to Small, Smith & Reeb. The partners are Philip L. Small, George C. Smith, J. Elmer Reeb, and James I. Kuhn. Mr. Francis K. Draz, 13124 Shaker Square, will be associated with the firm in residence work.

DONALD BARTHELME, ARCHITECT, has opened an office for the practice of architecture at 1122 United States National Bank Bldg., Galveston, Texas.

TWO ARCHITECTURAL MEN desire companion to share expenses on an extensive architectural photographic tour through the East. Length of tour to be about three weeks, starting May 1st in our own car. References exchanged. For further information, and list of cities we intend to visit, write or call: S. Plotkin, 1971 Evergreen Avenue, Chicago, Ill. Phone HUmboldt 7552.

ARTHUR E. ALLEN, ARCHITECT, has moved his office from Jamaica, N. Y., to 73 Stewart Avenue, Garden City, N. Y.

ARNO KOLBE, ARCHITECT, has opened an office for the practice of architecture at 243 South Broadway, Yonkers, N. Y.

EMPLOYMENT SERVICE ITEMS WILL BE FOUND ON PAGES 24 AND 25, ADVERTISING SECTION

20,000 FEET of STEELTUBES in this Modern Library

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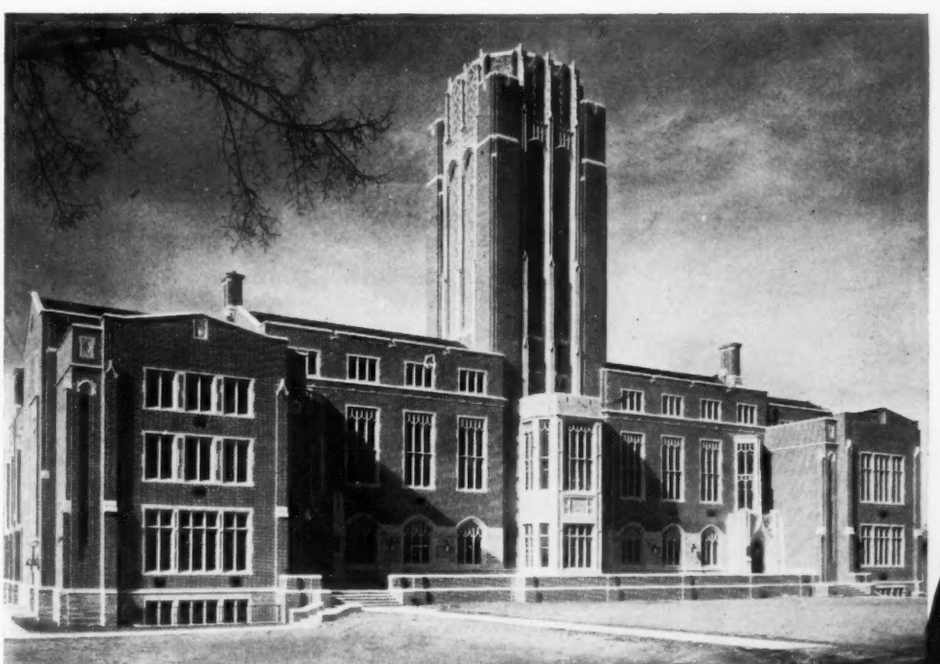

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Publications on Materials & Equipment

Of Interest to Architects, Draftsmen and Specification Writers

Publications mentioned here will be sent free unless otherwise noted, upon request, to readers of PENCIL POINTS *by the firm issuing them. When writing for these items please mention* PENCIL POINTS.

Anaconda "Electro-Sheet" for Built-Up Asphalt Roofs.—Publication D-2, just issued, describes the development and uses of "Electro-Sheet" copper for built-up asphalt roofing. Also discusses fabric-backed "Electro-Sheet"—a flexible roll material. Installation photographs and details. 12 pp. 8½ x 11. The American Brass Co., Waterbury, Conn.

Atlantic Terra Cotta.—A.I.A. File No. 9. Current issue, No. 3, of this series of house publications, deals with the subject of new trends in terra cotta manufacture. Among the recent installations pictured is a four-color illustration of the tympanum now being installed on one of the pediments of the Pennsylvania Museum of Art in Philadelphia. 20 pp. 8½ x 11. Atlantic Terra Cotta Co., 19 West 44th Street, New York, N. Y.

Using Paint as Light.—Valuable new document for architects and lighting engineers presenting a simplified summary of a paper entitled "The Influence of the Reflecting Characteristics of Wall Paints upon the Intensity and Distribution of Artificial and Natural Illumination," by D. L. Gamble, presented at the last convention of the Illuminating Engineering Society. Included are series of graphic charts and definition of lighting terms. 16 pp. 7½ x 10½. The New Jersey Zinc Sales Co., 160 Front St., New York, N. Y.

H & H Wiring Devices.—A.I.A. File No. 31-c-7. Standard filing size folder giving architects' reference data for wiring device specifications. 6 pp. Hart & Hegeman Division, The Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

Insulating Sheetrock.—Folder describing a new type of material that employs a new principle in insulation and provides a complete wall finish suitable for the better class of work. United States Gypsum Co., 300 West Adams St., Chicago, Ill.

Savigny's Oil Colors.—Booklet containing a brief description of Savigny's oil colors and medium together with a few fundamentals of their application. McCauley & Madison, Inc., Detroit, Mich.

Quaker Burnoil Heaters.—Illustrated bulletin describing the operation and construction of a line of automatic oil-burning water heaters. 6 pp. 8½ x 11. Quaker Manufacturing Co., 228 North LaSalle St., Chicago, Ill.

Guthfan Conditionaire.—A.I.A. File No. 31-f-23. Catalog No. 4. Treatise on practical method of air purification, cool air circulation and illumination. Included are illustrations and descriptive data covering various designs of Guthfan Conditionaires adaptable for commercial, industrial, institutional and residential installations. 22 pp. 8½ x 11. The Edwin F. Guth Co., St. Louis, Mo.

"Noverflo" Toilet Combinations.—Descriptive folder showing various styles of a type of "Noverflo" toilet equipped with automatic non-overflow control and suitable for hospitals, hotels, apartment and office buildings. Security Products Co., 2225 DeKalb St., St. Louis, Mo.

Hart & Hutchinson Radiator Enclosures.—Folder showing a collection of radiator enclosures in their settings. Included is data covering a humidifying radiator. The Hart & Hutchinson Co., New Britain, Conn.

Standard Specifications for House Framing.—Valuable manual for architects and specification writers containing complete set of specifications which include in a comprehensive and concise form the significant data and opinions on the accepted practices of good construction for house framing. Detail drawings, engineering data. 22 pp. 8½ x 11. Weyerhaeuser Sales Co., First National Bank Bldg., St. Paul, Minn.

Lead.—January issue of this monthly publication describes a wide variety of applications for lead in the building and other fields. 8 pp. 8½ x 11. Lead Industries Association, 420 Lexington Ave., New York, N. Y.

The Final Conquest of Beauty and Convenience.—Attractive brochure discussing the advantages of a complete electric kitchen for the residence or apartment house, embracing electric refrigerator, range, dishwasher, ventilating and lighting systems, clock and other electric appliances necessary to the modern kitchen. Included is collection of suggested kitchen designs reproduced in full colors. 16 pp. 8⅞ x 12. General Electric Kitchen Institute, 5600 West Taylor St., Chicago, Ill.

Improved Webster Systems of Steam Heating.—Bulletin B-150A. Useful reference guide for architects and heating engineers describing in detail Webster systems of steam heating both for new buildings and for the modernization of existing heating installations. Profusely illustrated. 28 pp. 8½ x 11. Warren Webster & Co., Camden, N. J.

The Modernization of 15 Park Row.—Bulletin describing the modernization of a well-known office building with specific reference to the use of Anaconda extruded bronze by the Penn Brass & Bronze Works. The American Brass Co., Waterbury, Conn.

The Kelley Method of Laying Concrete Floor Finish.—A.I.A. File No. 4-i-3. Bulletin explaining the advantages of using a low water-cement ratio mix, and illustrating and describing the Kelley method of floating out this coarse, dry mix with the Kelley floating machine. 8 pp. 8½ x 11. Kelley Electric Machine Co., 281 Hinman Ave., Buffalo, N. Y.

The Pergola.—Catalog No. 39 describes and illustrates a large selection of designs of pergolas, garden furniture and Art Stone furniture and garden accessories. 64 pp. 7¾ x 10⅝. Hartmann-Sanders Co., 2155 Elston Ave., Chicago, Ill.

Ellison Balanced Doors.—A.I.A. File No. 16-a. Descriptive and specification data folder covering a type of balanced door, especially developed for use at entrances and vestibules of office and public buildings, that can be easily opened against high wind pressure. 4 pp. 8½ x 11. Ellison Bronze Co., Inc., Jamestown, N. Y.

Goodyear Rubber Flooring in Southern California Edison Building.—Handsomely illustrated brochure devoted to a description of the rubber flooring installation and other features in the Southern California Edison Building, Los Angeles, Cal. 16 pp. 8½ x 11. The Goodyear Tire & Rubber Co., Inc., Rubber Flooring Dept., Akron, Ohio.

Raymond Duo-Stat System.—Bulletin No. 4 presents complete data relative to the application and operation of a type of automatic heat regulation equipment for all types of heating plants in all kinds of buildings. Installation data, typical wiring diagrams. 16 pp. 8½ x 11. F. I. Raymond Co., 629 West Washington Blvd., Chicago, Ill.

Westinghouse Industrial Lighting Equipment.—A.I.A. File No. 31-f-233. New catalog, 219-A, dealing with the subject of industrial lighting equipment describes each unit and lists them in a convenient manner. A complete line of equipment is listed including new units, low priced industrial floodlights, quick change Wemco reflectors and sockets. Indexed. 64 pp. 8½ x 11. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Published by the same firm, "Westinghouse Flex Arc Welding." Data bulletin No. 16 describes in detail the features, characteristics and applications of Westinghouse Flex Arc welders. 20 pp. 6 x 9.

"Westinghouse Commercial Lighting." A.I.A. File No. 31-f-232. Catalog 219-B lists a complete line of commercial lighting equipment including several new types of luminaires. Each unit is illustrated and a description with specifications and applications are included. Indexed. 44 pp. 8½ x 11.

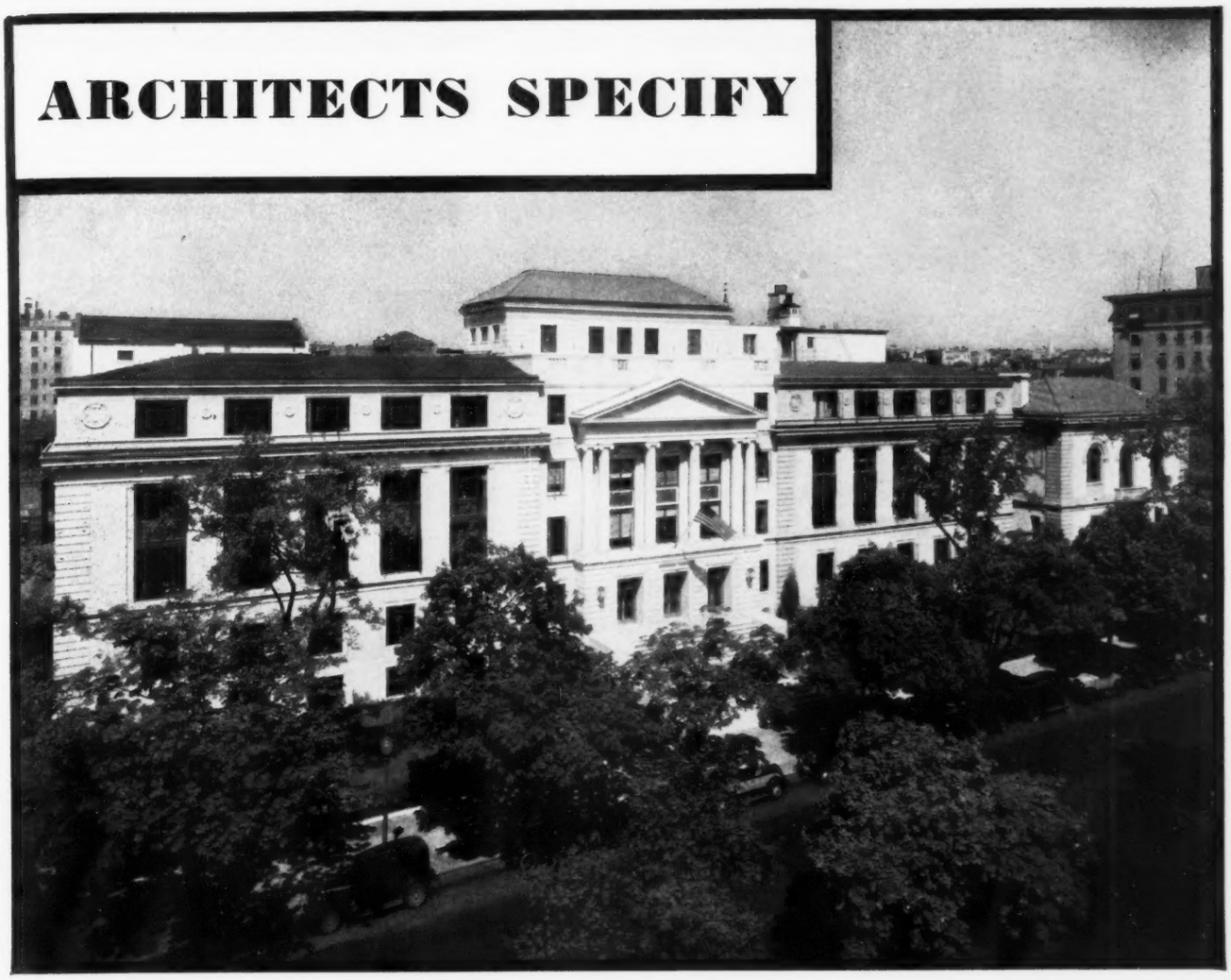
The Iron Fireman.—Catalog No. 32 describes and illustrates the design, construction and operation of a line of automatic firing equipment. Data on control instruments is included. 16 pp. 8½ x 11. Iron Fireman Mfg. Co., 3170 West 106th St., Cleveland, Ohio.

United Stucco Process.—New bulletin explaining the refinishing of stucco walls by the United stucco process. 4 pp. 8½ x 11. United Specialty Construction Co., Inc., 103 Park Ave., New York, N. Y.

Crane Concealed Cast Iron Radiators.—Catalog, recently issued, announces and describes a complete new line of Crane concealed cast iron radiators for hot water, steam, vapor and vacuum systems. Included are wide variety of designs of enclosures, cabinets and grilles. Rating tables, blue print dimension drawings and piping schemes. Indexed. 48 pp. Crane Co., 836 South Michigan Ave., Chicago, Ill.

Fearless Dishwasher System.—Illustrated booklet with brief descriptive and specification data covering numerous models of motor-driven dishwashing machines. 16 pp. Fearless Dishwasher Co., Inc., Rochester, N. Y.

ARCHITECTS SPECIFY



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Position Wanted: Registered architect and graduate of School of Architecture of N. Y. U. would like position with an architect, engineer or manufacturer. John J. Trich, 329 Ridge Road, Rutherford, N. J.

Wanted: Salesman experienced in landscape construction, nursery work or engineering. Old established company reorganizing. Exceptional opportunity for man with proven ability to form a permanent connection with immediate advancement. Living in or near Philadelphia. Box No. 200, care of Pencil Points.

Position Wanted: Designer, delineator and accurate architectural draftsman. Graduate of Massachusetts Institute of Technology, with European study and travel. Seven years' experience in New York and Boston on all types of work including some landscape architectural designing. Would like permanent position in any locality. Moderate salary. Box No. 201, care of Pencil Points.

Position Wanted: Gothic man with good experience and training on churches, schools and commercial buildings would like to contact office with work to do of this nature, or an individual with good sales personality who would consider partnership to work up a practice in this field. Have had 23 years' experience in best offices in the east. Trained here and abroad. Registered in Pennsylvania. Fred D. Dagit, 3759 N. Bouvier Street, Philadelphia, Pa.

Position Wanted: Young man wishes position in architect's office. Have completed course in architectural drafting and building. Desires to further his education as an architect. Will gladly give further information and references. Robert Walter, Spencer, Iowa.

Position Wanted: Architect, registered in Michigan, 33, desires connection. Over eight years in fine offices in New York, Washington, Detroit and other cities. College graduate, also capable stenographer. Reliable and conscientious. Can furnish good references. Specialized in country residences but not limited to that. Salary moderate. Will go anywhere. Box No. 203, care of Pencil Points.

Position Wanted: Designer-salesman, ornamental lighting fixtures. Twelve years' experience. Good contacts. Box No. 204, care of Pencil Points.

Position Wanted: Architectural man, 27 years' experience on almost all types of buildings in the offices of New York City architects doing first class work. Last eleven years I have been in charge of a drafting room averaging fifteen men. Age 50 years. Married. Excellent references. Will consider any position where my experience can be used. Clinton Steele Johnson, 116 West 34th Street, New York, N. Y.

Position Wanted: Young man, 26 years of age, desires a position as an architectural draftsman and assistant superintendent of construction. Nine years' experience in architects' and builders' offices. Will furnish references. Will work anywhere, preferably out of town. Morton Pannaman, 1738—58th Street, Brooklyn, N. Y.

Position Wanted: Architectural designer, nearly 20 years' experience in the profession. Have successfully designed and completed to finished working drawings buildings, monumental, ecclesiastical and domestic, with equivalent knowledge of their practical requirements. Imagination for presentation in pencil or color. Graduate of an accredited school. Will make any concession on competitive work. Any location acceptable, permanent or otherwise. Salary reasonable. Box No. 205, care of Pencil Points.

Position Wanted: Architectural graduate, 11 years' practical experience. Age 30. Having no parents will travel anywhere. Ready now. Salary—will appreciate any proposition or what you can afford. Very ambitious, steady worker and very reliable. Box No. 206, care of Pencil Points.

Position Wanted: Junior draftsman, 1½ years' experience. Will furnish examples of work on request. Box No. 207, care of Pencil Points.

Position Wanted: Architectural draftsman, 30 years' experience obtained in the best architectural offices in New York City. Had complete charge of plans on Homestead Hotel Building, Chateau Laurier and Canadian National Railway Building. Training obtained in Columbia University Extension, Hornbostel Atelier, Cooper Institute and Mechanics and Tradesmen Institute. Age 45, married. Charles F. Kennell, 3536 Hull Avenue, Bronx, N. Y. Apartment 4-H.

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Agency Wanted: Architecturally-trained man formerly in charge of architectural division of large metal building product manufacturer wishes to hear from manufacturers requiring agent in Baltimore, Md., and Washington, D. C. Box No. 10, care of PENCIL POINTS.

Position Wanted: Interior decorator would like to communicate with architect, or firm of architects, specializing in high-class residential work, who contemplates adding a department of interior decoration in order to develop his interiors in a manner satisfactory to him, and to increase his income in this lucrative natural adjunct to architecture. Convincing proof of this decorator's ability to successfully manage such a department will be submitted to responsible inquirers whose usual volume of high-class work would seem to justify such expansion on the return of normal business conditions. Box No. 11, care of PENCIL POINTS.

MANUFACTURERS' DATA WANTED

REQUESTS FOR manufacturers' literature have been received from the following:

G. M. GRIMES, ARCHITECT, 633 S. 5th St., Louisville, Ky.

ARTHUR E. ALLEN, ARCHITECT, 73 Stewart Avenue, Garden City, N. Y. (Do not send salesmen.)

N. L. ROBERTS, JR., ARCHITECT, 1220 Laramie St., Manhattan, Kansas.

JOHN J. TRICH, ARCHITECT, 329 Ridge Road, Rutherford, N. J.

KEMPER GOODWIN, ARCHITECT, 208 Kangerga Bldg., Henderson, Texas.

C. H. GREGG, ARCHITECT, 1509 16th St., N. W., Washington, D. C.

HARRY L. BACHMAN, draftsman, 120 W. 4th St., Hazleton, Pa.

C. M. KUYKENDAL, draftsman, 427 E. Main St., Rock Hill, S. C.

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FLOORS AND FLOORING MATERIALS—2

(Continued from page 104)

manufacturers. As some of our architects are designing steamship interiors, it might be well to mention that magnesite floors have stood up exceptionally well in marine installations. Magnesite flooring, particularly the magnesite terrazzo, is used extensively for re-covering worn floors in department stores, and has given satisfaction in practically every case.

No mention has been made of hardened or colored cement floors, as they were discussed in my article in PENCIL POINTS of July, 1930.

CONCLUSION

The various flooring materials which I have described do not include all the flooring materials which are available. There are some with which I have never had experience, which by the way is nothing to their discredit. There are others which are patented processes, and which are made by more or less secret formulæ. Of these I can naturally give no description of any particular value.

In closing let me say for the benefit of my readers that I have not tried to show in any way the superiority of one flooring material over another, and if more space has been devoted to one than to another, it is not due to any favoritism on my part, but merely to the fact that I knew more about that particular material.

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Quality . . . at a price!

TODAY—the highest possible quality at the lowest possible cost determines the choice of plumbing fittings. So Scovill has met conditions with a line of flush valves and fittings that offers outstanding values. Materials, design and workmanship guarantee service and satisfaction to the client—at a fair and reasonable price.

Whether you have a modernization job or a new building under consideration, Scovill is certainly a name worth investigating! Send for a catalog showing today's modern and complete Scovill line. Your office should have one on hand. Just write to:

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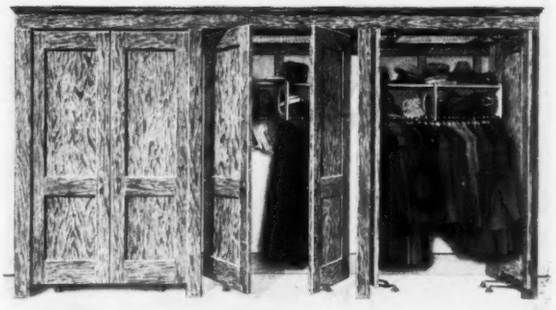
Watch for an announcement by Scovill, of interest to all those connected with the profession of architecture, in the March issue of this magazine.

SCOVILL

MUSEUM CLOISTER, PALERMO "VEZELEY"

PENCIL SKETCHES BY BRUNO JOHN BASIL, MADE WHILE HOLDER OF THE LE BRUN SCHOLARSHIP IN 1931



EVANS "Vanishing Door" WARDROBE

●

Class J

equipped with either "Floor" type (as illustrated) or "Jamb" type hinges. This is Class D wardrobe if made with flush doors.

CLASSROOM WARDROBES

High in Quality—Low in Cost

This type occupies a recess flush with the wall. Plaster back and ends. No partitions, but with mullions between pairs of doors. Wire mesh ceiling. Blackboards if required.

The "Vanishing Door" hinges on which the doors are hung are made with double pivoted arms and swing the doors back into the wardrobe entirely out of the way. Simple—trouble-proof—and last as long as the building.

Wardrobes are furnished complete in the knockdown, with all woodwork cut to size, and only need to be nailed in place. The hinges are easier to put on than common butt hinges. The entire cost of installation is small.

We make many other types of school wardrobes, fully illustrated and described in 1933 *Sweet's, volume C, pages* 774-781.

W. L. EVANS

WASHINGTON, INDIANA, U. S. A.

FAIENCE POLYCHROME PANEL

MUELLER MOSAIC CO.

FACTORY: TRENTON, N. J.

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1818 1933

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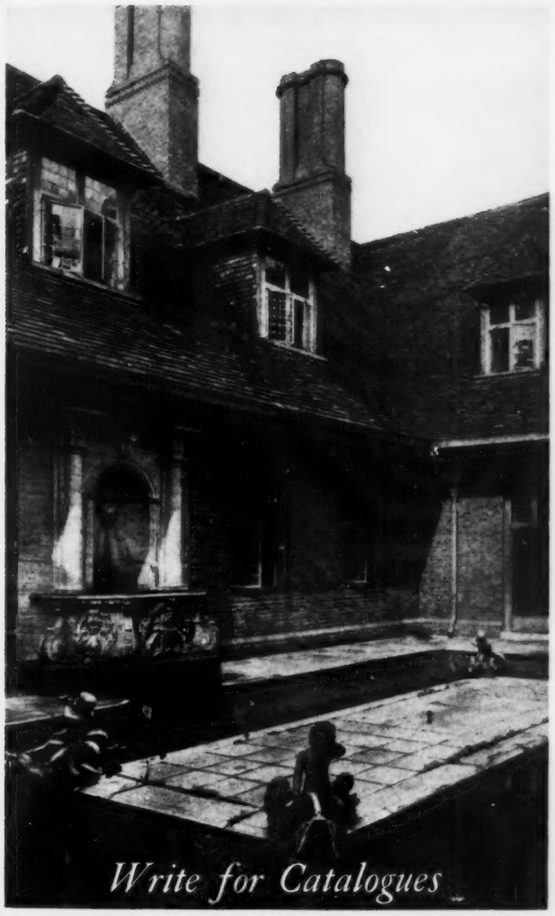

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ANACONDA "ELECTRO-SHEET" FOR BUILT-UP ASPHALT ROOFS

Announcement is made by the American Brass Co., of the introduction of Anaconda "Electro-Sheet," a wide thin copper sheet, made available by the perfection of an electro-deposition process. The fact that it is rustproof, strong, ductile and relatively inexpensive suggested its use for built-up metal roofing. It is also said to offer possibilities as a means of waterproofing foundations, as a wall lining to prevent infiltration and as a dampproofing for insulation.

"Electro-Sheet" weighing 1 ounce per square foot is available in long rolls 30 in. and 50 in. wide, 2 and 3-ounce material 30 in. wide, and 4 to 8-ounce material 30 in. and 40 in. wide.

Built-up sheet copper roofing consists of alternate layers of asphalt and 2-ounce "Electro-Sheet," built up on the roof. The combination of the durability of copper and the weather-resisting properties of asphalt offers, it is stated, a roof having indefinite life with a minimum of maintenance expense.

A further development of Anaconda "Electro-Sheet" is a fabric-backed copper sheet, which is composed of "Electro-Sheet," backed up and reinforced by a heavy cotton fabric which is impregnated with asphalt and thoroughly bonded to the copper by a substantial coating of pitch compound. The resulting product is unusually flexible, and in the 7-ounce weight may be used for eave strip, flashing, gutter linings, ridge coverings, etc., in connection with built-up roofing. The 3-ounce weight, designated as "Copper-Flex," is supplied for roll roofing purposes.

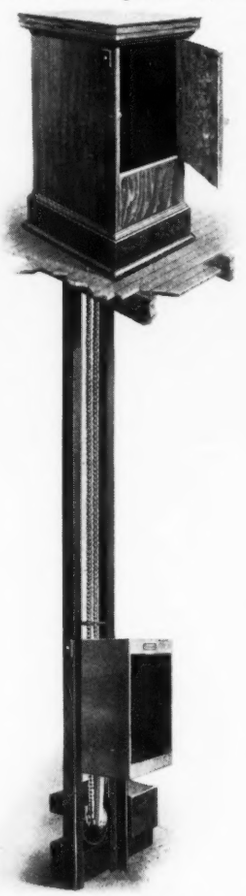
LA FARGE SUPER WHITE PORTLAND CEMENT

After several years of research and experimentation in the LaFarge laboratories and mills, the International Non-Staining Cement Co., Inc., 40 Thirteenth St., Brooklyn, is offering LaFarge super white portland cement, a new white cement manufactured by the double-burnt process.

LaFarge super white portland cement is of extreme fineness, retaining only 2 to 3 per cent on a 200 mesh screen. Besides being slow setting, quick hardening and attaining high early tensile comprehensive and bonding strengths, it is said to produce a mortar of desirable plasticity and workability and is non-staining and non-efflorescent. It is especially suitable for setting, backing and pointing limestone, marble, granite, terra cotta, etc.; laying up face brick, floor and wall tile; white or colored finish coat for stucco work; terrazzo floor and swimming pool construction, etc.

NEW ELECTRIC DUMBWAITER BY SEDGWICK

The Roto-Waiter, just announced by Sedgwick Machine Works, New York, is an entirely new departure in electric dumbwaiter design. While all the elements of full automatic service have been provided, the equipment is so designed as to eliminate needless expense in dumbwaiter construction and thus make possible a selling price which approximates a fifty per cent saving in the normal price scale.



The unique design permits the use of a motor operating in one direction only, a reversible motor not being required. The car and all other parts of the Roto-Waiter are of metal and assembled as a complete unit. Because of its compact construction and general simplicity of design, the Roto-Waiter is easy to install. This is another important economy.

A further economy is in current consumption. Because of the more effective application of power, the motor is smaller than would be used for similar load capacities with the conventional type of electric dumbwaiter.

Service is intended between two points only, with upper and lower stops which bring the car into exact position for use. Safety in operation is assured by door switches at upper and lower points of service which make the car inoperative when a door is open. There are car sizes and load capacities to meet all service requirements.

NEW TYPE OF CONCRETE BUILDING CONSTRUCTION

The Roberts and Schaefer Company, engineers and contractors, Chicago, announce they have secured the exclusive rights for the United States of a new type of concrete building construction which they believe will be of especial interest to the engineers and architects. Dyker-

(Continued on page 34)

In which we launder the sheets

As a result of the various processes throughout the mill, the sheets accumulate dirt, dust and mill scale.

That dirt must be removed. But not in any old way. It must be removed without eating into the metal more than is necessary.

So there's a lot more to pickling than just dousing the sheets up and down in the acid solution.

The concentration of the bath, maintenance of proper temperatures, the composition of the metal, all must be taken into consideration. Afterwards, there's the rinsing of the sheets, and the neutralization of the acid.

GOHI Sheet Metal is the perfect product it is, because of the care with which this pickling process and all the other mill processes are carried out.

This care, in combination with the composition of the metal—a pure iron-copper alloy—is the reason why GOHI is the one low cost ferrous metal you can trust under the most severe corrosive conditions, why it works easily, lasts long, and cuts both first and last costs.

Write for your copy of the GOHI Architect's Specification Book—a practical manual crammed with useful information and pictures of GOHI installations. It's FREE.

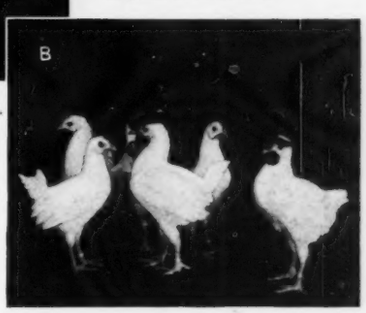
GENUINE OPEN HEARTH IRON
GOHI
PURE IRON - COPPER ALLOY

The Newport Rolling Mill Co.
Newport, Kentucky

GOHI
PRONOUNCED "GO-HIGH"
SHEET METAL

Would you believe these chicks are the SAME AGE ?

A. Six weeks old—sick, weak, and victims of rickets . . . because they were raised under ordinary glass . . . Four of the original seven died.



B. Six weeks old . . . all seven alive and normal, healthy, strong, and entirely free from rickets . . . because they were raised under Lustraglass.

Carefully controlled experiments by an authority on poultry husbandry definitely prove the biological benefits of sunlight transmitted by Lustraglass. The chicks raised under ordinary window glass were deprived of the ultra-violet rays which produce Vitamin D and prevent rickets. The chicks raised under Lustraglass received plenty of ultra-violet rays and were free of any rachitic symptoms. The photographs above show the remarkable difference.

The results of these experiments are confirmation of the fact that Lustraglass transmits a substantial volume of ultra-violet rays of sunlight . . . Because it transmits these valuable rays and because it is a clearer, whiter, flatter, more lustrous glass, and because it costs no more than any good window glass, architects and builders everywhere are specifying Lustraglass for every type of building. Send for the Lustraglass booklets A-430 and P-332. The latter contains an interesting report on the experiment with chicks.

Look for this label on every light of genuine Lustraglass.

LUSTRAGLASS
the ultra violet ray window glass

AMERICAN WINDOW GLASS CO.
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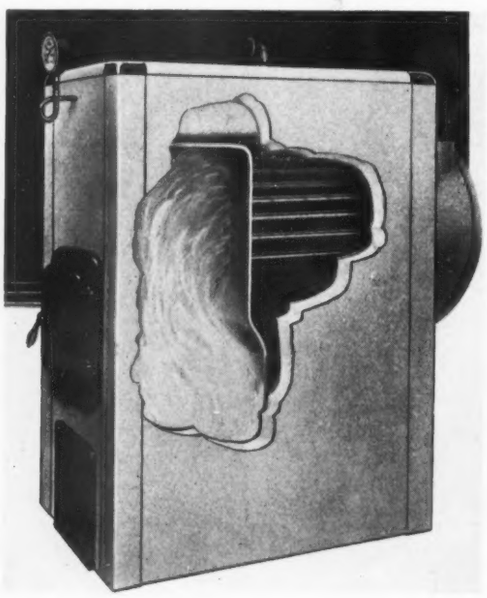
Also makers of Lustrawhite Picture Glass, Armor-Lite Safety and Bullet-Proof Glass, Tintaglass, Photographic Dry Plate Glass, 3/16" and 7/32" Crystal Sheet Glass, Ground Glass, Chipped Glass and Bulb Edge Glass.

hoff and Widmann, A.G., one of the largest engineering and contracting firms in Germany, have perfected the Zeiss-Dywidag Patent Concrete "Sheet Domes" and "Barrel Shell" roofs for permanent, monolithic, reinforced concrete for large building construction. Their designs enable them to construct thin, reinforced concrete roofs of very large spans without intermediate supports.

NEW FITZGIBBONS OIL-EIGHTY AUTOMATIC BOILER FOR OIL BURNING

The Fitzgibbons Boiler Company of New York has developed a new boiler for either the rotary or gun type burner to be known as the Oil-Eighty Automatic. This



burner combines automatic combustion control with instantaneous hot water as two of the more outstanding features. This is a residence copper-steel boiler jacketed in a heavy steel casing, enameled and lined with corrugated insulation to prevent heat loss.

MINNEAPOLIS-HONEYWELL ADDS NEW CONTROLS TO LINE

Among the improved developments in the automatic control field are a number of new instruments and devices developed by the Minneapolis-Honeywell Regulator Co. to cope with present-day problems in temperature, humidity, and refrigeration control fields. The new program furnace control, for automatic warm-air furnace applications provides complete control of furnace fan operation and source of heat. It coordinates fan action with heat source and furnace temperature to meet room thermostat demands in winter and also provides for operation of the furnace fan in cooling during the summer months and prevents the operation of the gas valve or damper motor while the device is set for summer cooling. The new Protectoglow provides instant protection against the escape of unburned gas or oil in the event of flame or pilot failure. The new Minneapolis-Honeywell development, Type L temperature controller is a device for maintaining temperature of gases or of liquids within definite limitations on various types of industrial equipment. The new refrigeration temperature control Type 414-1, is suitable for all commercial installations, either air temperature jobs, brine systems or other type of liquid installations. The Type V 92-1 proportioning motor valve constitutes a part of a new electric control system that provides precise and sensitive control of temperature, humidity, liquid level, stoker or pulverized feed, etc.

NEW SILENT KOHLER FLOAT VALVE

A new float valve which functions in the tank of a closet combination without permitting the noisy gurgle so common with ordinary valves has been developed by the Kohler Company, Kohler, Wis., as the most important part of the new Kohler "Merit" water control.

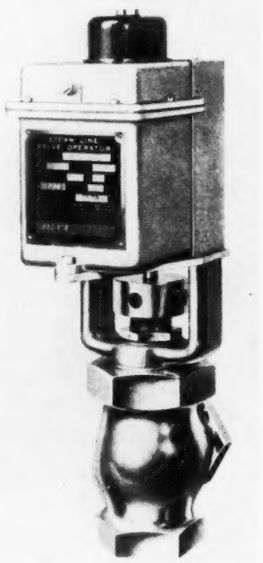
In this new silent fitting a spiral silencer in the hush tube reduces the full force and volume of the down-rushing water to a free-flowing, gentle stream. The tank is refilled rapidly as before, but noiselessly. Moreover, a conveniently placed screw may be adjusted so the bowl too refills quietly and efficiently.

All the working parts of the float valve mechanism of the Merit are accessible by removing only one thumbscrew. There is a renewable seat which easily may be removed and replaced and a serviceable rubber seat washer which also may be replaced by simply removing the holder.

Float rod leverage of the fitting is adjusted easily to meet varying water pressures. The valve operates with either high or low pressure and closes positively against pressure up to 125 pounds.

BARBER-COLMAN ELECTRIC THROTTLING VALVES

A recent addition extends the equipment which goes to make up the Barber-Colman Electric System of Temperature Control to include a line of small electric-motor-operated throttling valves. These have been designed for service in those applications where the conditions require graduated valve action. They are especially useful on small blast systems and air conditioning systems where throttling valves smaller than the 2 in. size are required. Unit heaters and unit ventilators which require a throttling control can also make good use of them. These valves are available in packed or packless models, high pressure or low pressure types, in sizes from ½ in. to 2 in. This completes the Barber-Colman line of throttling valves so that sizes from ½ in. to 12 in. are now available.



The motor-operator used is a small size Barber-Colman reversing damper controller. In this application it is mounted on a special bonnet which is fitted to the same type of body, disc, plunger, and packing gland assembly as is used for corresponding positive acting valves. The motor-operator turns a cam which imparts a positive longitudinal motion to the plunger sleeve that fits over the valve stem. Since a reversing type operator is used, it can be stopped, restarted in the same direction, or reversed at any position between the points where the valve is fully open or fully closed. The speed is conveniently adjustable after installation, and consequently can be changed to meet varying requirements. Auxiliary training switches are incorporated in the motor-operator and from these switches it is possible to actuate other apparatus such as the subsequent valves on a blast system.